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February 2002
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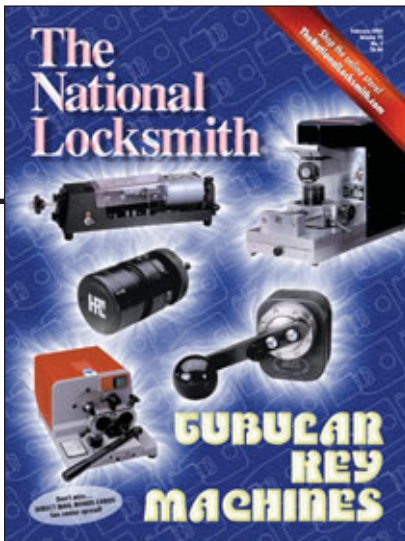
The National Locksmith®



Don't miss...
DIRECT MAIL BONUS CARDS
See center spread!

TUBULAR KEY MACHINES

On The Cover...



Available in a variety of shapes, sizes and price ranges, there is a tubular key machine that is sure to fit your needs.

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COMMENTARY



www.TheNationalLocksmith.com

Locksmiths in the News

Recently I searched the web for news stories relating to locksmiths. Here are some of the results of the more interesting ones mentioning our profession.

(09-Jan-02) Two rotting bodies, a champagne glass, wilted roses and a love note are part of a gruesome discovery that is continuing to baffle Singaporean investigators.

The decomposing corpses of a man and a woman were found Monday night in a car that had been left unattended in a shopping center car park in a Singaporean district known for its profusion of pubs and prostitutes.

A passerby noticed a foul smell emanating from the car and alerted authorities. Using a locksmith, police opened the car to find the man's body, splattered with candle wax and covered by a tablecloth in a wicker basket in the back seat of the vehicle.



Donald McNeese sweeps fire-charred debris off a hallway floor at T.W. Josey High School, in the Augusta, Georgia area. Mr. McNeese is a locksmith for Richmond County schools, but he pitched

in to help clean up the school before Jan. 3. School officials estimate the costs for repairs at T.W. Josey High School could exceed \$150,000. The fire was ruled arson.

A BusinessWeek Online article details how theft of high tech parts in transit for shipping results in \$200 from the price of most computers going to pay for theft losses. The September 11 attacks resulted in half of Brett Millar's FBI theft team being reassigned to counterterrorism duty. Criminals "think it's easy pickings," says Millar, supervisory special agent with the FBI. A successful heist could easily mean \$200,000 or more for a team of three or more people, including a leader, a

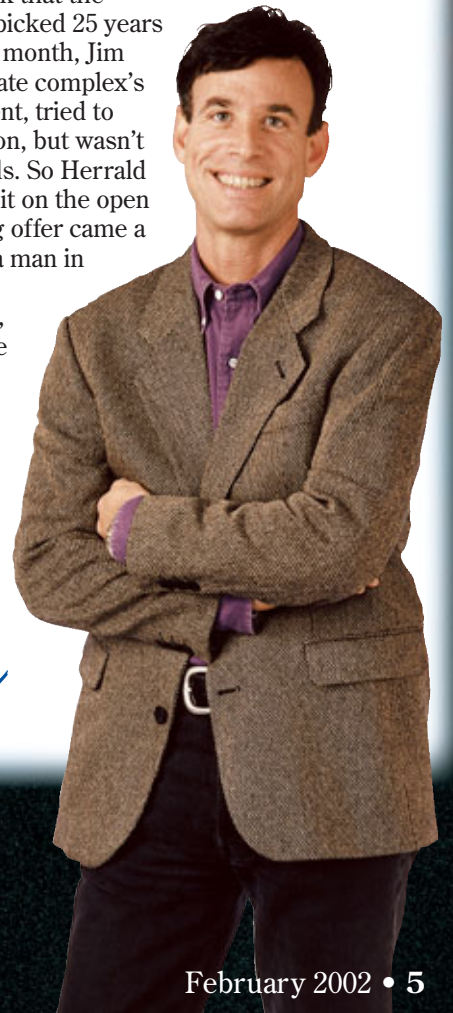
locksmith, a driver, and some "lumpers" who unload the cargo. According to Millar, well-organized criminal groups can stage as many as three heists a week.

BATON ROUGE, Louisiana (CNN) —19-Jan-98 A shooting that left one man dead and three children wounded at a Martin Luther King Day parade Monday was the result of a personal feud and not "any racial ... or political motivation," police said.

"We watched them go by, and everyone seemed as happy as could be — until the shooting happened," said Elaine Tucker, office manager for a locksmith shop.

HAMPTON, Va. (AllPolitics, June 6) — The buyer is unidentified. The price is undisclosed. So chalk it up as another of Watergate's minor mysteries: who owns the four-pound brass lock that the Watergate burglars picked 25 years ago next week? Last month, Jim Herrald, the Watergate complex's retired superintendent, tried to sell the lock at auction, but wasn't satisfied with the bids. So Herrald opted instead to sell it on the open market. The winning offer came a few days later from a man in Florida who did not want to be identified, said Bill Welch of the Phoebus Auction Gallery. After the June 17, 1972 break-in, a locksmith kept the lock for a few years until Herrald asked for it as a souvenir.

Marc Goldberg



Have questions? Want free technical help?
Free Locksmith Forums!

www.TheNationalLocksmith.com

Marc Goldberg
Publisher

Mango's Message

If the name *Door Doctor* is one you are not familiar with, be glad your not. If you are, I'm sure your blood pressure just rose to a dangerous level and the top of your head is about to explode. Door Doctor of North America, Inc., has stirred a hornet's nest from the East Coast all the way across to the West, and many locksmiths are feeling the sting.

Door Doctor represents itself as an established service provider that will repair, replace or sell parts for all types of doors, gates, grills, glass, storefronts, locks and alarms, for commercial clients throughout North America, Alaska, Hawaii, and Puerto Rico. In the company's Mission Statement and Company Profile, it states: "We are able to provide for all of your architectural hardware and locksmithing needs, and can dispatch service technicians anywhere in our market area twenty-four hours a day with very short notice."

The one thing the Door Doctor does do is provide locksmiths for the services its customers request. The one thing it allegedly doesn't seem to do very well, however, is *pay* those locksmiths it contracted with for the services rendered. But then again, I never did see anything referring to *pay* in their Mission Statement!

Door Doctor markets itself as a service provider, however, it is little more than a phone soliciting, bill collecting, middle man operation that sub-contracts every work order it receives to an independent non-company related service provider. Door Doctor employs no service providers of its own. It solicits only commercial companies for their lock and security business, then solicits locksmiths to provide the service. When the service is complete, Door Doctor bills the company in question and in turn should pay the service provider. It's the very last part of that equation that seems problematic, and there are a number of locksmiths that are not happy about it.

Door Doctor is representing companies such as: Borders Books, Circuit City, JC Penney, Crab Tree, KB Toys, and other large corporations with retail store locations across the country. These are reputable companies requesting security service that would normally not cause reason for concern on the locksmith's part. Many of these locksmiths are providing parts and services for these companies with tickets ranging between \$1500 - \$3000

Locks, Locks, Locks



COME ON IN!
OUR DOOR IS ALWAYS OPEN!

DOOR
DOCTOR
OF
NORTH AMERICA, INC.



per job and more, for which they claim they are not being reimbursed.

To get some preliminary information on Door Doctor, I went to their web site where I was greeted by an animated doctor welcoming me in. As I enter, I am presented with the Mission Statement and Company Profile, stressing their *Excellence in Service*. From there the various products and services they provide is accessible. The site was nicely done, colorful and even offered new corporate customers a savings of 10% on their first \$10,000 of cumulative orders. What a deal!

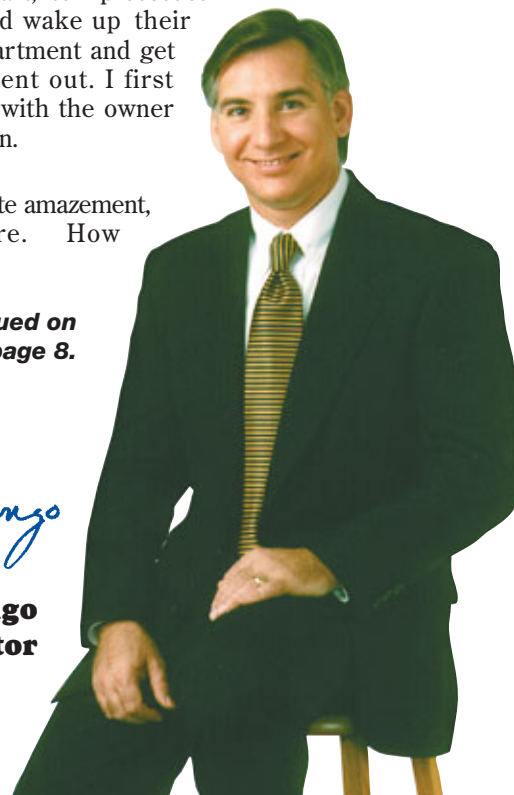
After viewing the web site, I was sure this debacle was nothing more than a minor oversight on Door Doctor's part, so I proceeded to call them and wake up their accounting department and get some checks sent out. I first asked to speak with the owner Richard Goodman.

To my absolute amazement, he wasn't there. How

Continued on
page 8.

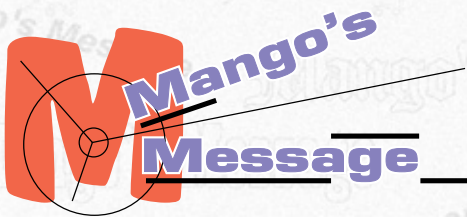
Greg Mango

Greg Mango
Editor



DOORS! DOORS! DOORS!





Continued from page 6

surprising! I then tried to contact the accounting department and was greeted by a recorded message requesting that I leave a message. I did. I'm sure you can surmise the outcome of that request.

I then posed as a potential service provider and the Door Doctor dispatcher was only too happy to speak with me. He asked me where my location was and what my hourly rate and service call rate was. He then said he would fax me some information on the company. I requested that he send a copy of their Terms & Conditions contract as well. I never received it. He asked how I heard about Door Doctor and thanked me for contacting them. He said they already had a service provider in my area, but desperately needed more.

I then searched the Better Business Bureau (BBB) web site to see if they had any record or complaints against Door Doctor. They didn't. I then called the BBB Washington, DC office to see if they had anything on Door Doctor that may not have shown up on their web site. They showed no record or complaints filed against Door Doctor, so I filed one to have the company investigated.

After speaking with the BBB, I called Robin Scheirer with Safemasters in Silver Springs, Maryland, (which is located right around the corner from the Door Doctor location) which at one time provided service for Door Doctor accounts. Robin got so fed up chasing them for collections (after having been told every story under the sun for Door Doctor's unacceptable payment practices,) he filed a lawsuit against the company. That was almost five years ago. The suit is still pending. In fact, the last Robin heard, which was just prior to my conversation with him, the process servers were still trying to track the owner, Richard Goodman, down. They even asked Robin if he knew where to find him? Robin's reply was "I thought that was your job!" So the saga continues.

Apparently the non-payment complaints against Door Doctor have been circulating for years. One has to wonder how a company involved in such practices can operate so long before something is done? Well, there are several reasons. First, most people do not direct their concerns or complaints beyond the boundaries they have the problem with. It's a headache, time consuming, and often not worth the hassle. So it continues. If one locksmith complains or refuses to serve Door Doctor accounts, they just find another unsuspecting locksmith to take his place. So it continues. A story such as this is usually not told to the news media or is newsworthy enough to be covered by the local or national news media or newspaper. So it continues. If complaints are made to the local District Attorney, or a county case worker, their work load is usually so great, it may take an eternity before the complaint is considered and investigated. So it continues. If a lawsuit is filed, the court system is so backed up, it may take years before the case is reviewed. So it

continues. Before the industry pubs, such as ours, catch wind of the story or have enough complaints to make it worth investigating and devoting a story to inform you, it is often some time after the fact. By then, far too many people have already suffered a loss. It has been just recently that I have been inundated with calls and complaints about Door Doctor. So it continues.

If you have been victimized by Door Doctor, file a complaint everywhere you can. Start with the businesses you serviced and let either the loss prevention personnel, manager or owner know about the situation. Get legal advice to see if you can file a mechanic's lien or contractors lien on the business, or if you need to file a lawsuit. Contact the Baltimore States Attorney's office, (410) 209-4800, www.sodoj.gov/uso/md/, or local political representative to file a complaint in your area and in Maryland. File a complaint with the BBB, preferably with an office having Maryland jurisdiction. In this case it would be the Washington, DC office, (202) 393-8000, www.dc.bbb.org/. Last, but not least, don't hesitate to contact the news media or major print media serving the Silver Springs, Maryland area. There it would be the Washington Post or Baltimore Sun, (410) 332-6000, www.sunspot.net. Ask for the newsroom (city desk), or they may have an investigative office that would be interested in the story.

To accomplish most of these tasks, the Internet is the key. Every bit of information from web page addresses, office locations, contact personnel, phone numbers, fax numbers, e-mail addresses and the like, that you need to know, can be found with a few mouse clicks and a little time.

As we all know, there is strength in numbers, and a great way to amass strength is on TheNationalLocksmith.com web site. In the "Locksmith Forum" section, if you post your complaint and your contact information, others experiencing the same situation have a way of networking, pooling resources, devising a plan of attack and implementing it. If what I just said reads like Chinese subtitles, you need a computer, Internet access, a minor learning curve on how to do searches, and you'll be on your way. In the right hands it is not only an invaluable tool, it can be a lethal one.

If you do file a complaint, the following is information you will need:

*Door Doctor of North America
Owner: Richard Goodman
2419 Linden Lane
Silver Springs, MD 20910
Phone: 800-296-2960
Web: www.DoorDoctor.com
E-mail: doordoor@doordoor.com*

For those stung by this company, good luck. For those not, beware.

Gates and Grilles



Glass and Board-ups



Alarms, and Security Products



Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

A Seaman's Salute

I have been a locksmith in the US Navy for the past ten years. I am on board a ship and I just want to tell you I have received my copy of *The National Locksmith*. I read it from cover to cover and have found it very helpful. It is very hard to receive any help when out at sea. Most of my work is on GSA and related equipment and the magazine has proven a great help.

I would like to wish all the readers and their families a happy and wonderful holiday season.

*Very Truly Yours,
MR2 Franklin Bondurant*

The Loss of a Great Certified Master Locksmith

I am very sorry to report the death of this area's most professional locksmith. The locksmith world lost Daniel W. Hill, age 55, Mondy, December 3, 2001. Dan was a Certified Master Locksmith and the owner of Hill Lock & Key for over 25 years. Dan died in his sleep at home after suffering a heart attack this past July.

Dan was an Air Force veteran and is survived by his wife, Denise, and

their daughter Megan, and his parents.

Dan was certainly a valuable asset to the Bloomington, Indiana community. He served as sitting President of the South Indiana Chapter of ALOA. He was very proactive at making the locksmiths of southern Indiana the best and most professional they could be. Dan's pet peeve was ethics and professionalism, in that order. I know of at least three locksmiths over the years Dan took under his wing to teach them the "right" way to do the job. Dan taught me more in two years than I would have ever learned on my own. Dan was not selfish with his knowledge or his skills.

Dan will be remembered by us local's for his sense of humor and his laugh. Dan always had a story to tell, and it seems they were always true.

Michael Hendricks, CPL

Proud to be a Locksmith

Hello. My name is Wilfredo Velez. I'm a locksmith from Vineland, N.J. Every time that I say "I'm a locksmith," I feel so good and so proud of myself, because know I can say I'm somebody. I love to help people and meet new people. One time I was at the store when I heard this guy talking to his friend, telling him that he bought a car for a real low price because the owner lost the key. He didn't know what to do with the car without the keys. I told him what a locksmith can do for him and he looked at me like what in the world are you talking about. He didn't know what a locksmith was for. I explained everything and I made a key for him. I made a new friend as well.

I'm new in business and I have a lot to learn, but with your help I'm going in the right direction. *The National Locksmith* magazine is very good.

*Willy Velez
E-mail*



Dough Not Cash

The Lighter Side for September, 2001 prompted me to send in an experience I had. I always said, "Them ladies always pay me with money," until the day I received a call to open a locked vehicle.

Armed with a license number, I found the vehicle, opened it and asked the lady for thirty dollars. The lady asked if I would take it out in trade. As it turned out she was delivering bread for a bakery and I was paid with 30 loaves of bread, and have had a few laughs because she is the only woman that never paid with money.

Since 1944 I have walked with a sore knee because of a gunshot wound and eventually had to have my right leg amputated above the knee. As a result, I came up with the idea of what a locksmith should look like when arriving on the job, and what he should look like while working on the job. I have climbed up many flights of stairs with everything needed to complete any job, only to find that I had to make one or two trips back to my service truck for tools or parts or both. As a result, the following drawings were created by my daughter and her son. Please enjoy.

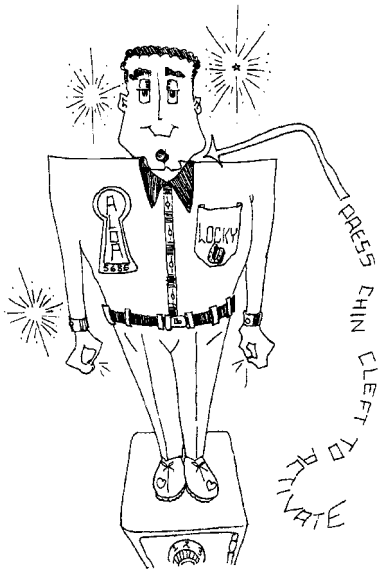
I have not been active in

An illustration of an envelope with a postage stamp. The text on the envelope reads: "The National Locksmith 1533 Burgundy Parkway Streamwood, IL 60107 Attn: Editor"

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

locksmithing since I lost my leg, but I try to stay up to date by reading *The National Locksmith*. I really miss being a locksmith.

*Randy C. Haigh
 B.C., Canada*



My Beloved Textbook

I have never written before, although I have been tempted to do so in regard to some of the letters written to the editor over the years. I passed that opportunity up just as I had passed up the chance of purchasing a computer. I finally purchased one at age 79. Now I'm finding that I can't get along without one.

I have been a subscriber to *The National Locksmith* for some 23 years. *The National Locksmith* has been my monthly textbook over the years.

I must live in a privileged place. I don't seem to have some of the problems some of your readers have. When it came to the police opening cars, a highway patrolmen whom I knew, told me to go to the city council and ask that they refrain from interfering in that duty. On a motion passed at the city council, it was turned over to me. They have been most cooperative. Anyone calling the police department is referred to me. The only requirement I had to fulfill was to see that I have 24-hour phone service. On an average year, I open 150-160 cars a year.

As to Roadside Service Company relations, I really have had no problems. I regularly work with four such services - Cross Country out of Boston, US Roadside out of Dallas, AAA out of Sioux Falls, SD, and General Motors. Chrysler Co. uses Cross Country; Ford uses US Roadside; some GM units use Cross Country. Some parts of GM use direct billing. In some cases, the roadside service calls me; in others, the customer calls. In the latter case, the customer calls and pays the bill and turns the bill into his/her insurance company for payment to the customer.

I have had no complaints as to AAA not paying the customer's bill. When AAA has called me, I send the bill directly to them. I've had no payment problems. Nor have I had any problems as to the number of miles I have to travel. When Roadside calls me, they usually ask what the bill will be. When I give them the figure, it includes \$1.50-per mile. Out here we have to travel up to 100 miles to open a vehicle.

Now comes the real reason I am writing this letter. Today, Cross Country called me to go 85 miles to replace keys for a 2001 Dodge Ram 3500. The owner had lost his keys. Because of the air-bag situation, I have invested in sets of try-out keys. They work very well for that purpose. Since the vehicle was a 2001 Dodge, I assumed that it was the new Chrysler 8-cut key.

I tried my try-out keys for that situation on the door and they failed to work. On a hunch I tried them in the ignition, and very quickly I found one that turned the ignition to accessory only. That key still would not work in the door. I made a duplicate of it to try to get the impression marks I needed to cut a proper key. It would not work, nor would any key I tried on the Y159

blank. Then a bit of inspiration hit me. I didn't have too many Y159's with me. So I tried duplicating the 8-cut cuts on a Y157 blank. It worked perfectly and gave me the impression marks I needed to cut a proper key.

I'd like to know if any of my fellow locksmiths out there can tell me why the Y157 blank worked when the 159 wouldn't. I have not seen the inner workings of the locks on the Dodge Ram 3500, so I do not have a clue as to the answer to my puzzle. The depths and spacings apparently were correct because the key worked the door and the ignition perfectly. I started the truck before I left to make sure that it was not a transponder key that operated the ignition even though my book told me that there was no transponder involved.

Thank you for all you have done for my education over the years.

*Bob Schlinkert
 South Dakota*

Andersen Window Locks

I had a call recently to repair an Andersen hinged French wood, patio door lever lock. The problem was simple, the handle drooped. It had a broken handle spring. The lock was warranted for 10 years, but it was 12 years old. I called Andersen and they said no parts were available. The only solution was to replace the lock. The price was 128.00. I asked who made the lock and they told me it was Lori Lock Co.

I called Lori and they said they only made the cylinder. I called Andersen back and they informed me that Amerock Corp. made the lock. I called Amerock and they acknowledged that they did make the lock, but for liability reasons could not ship any parts because Andersen marketed it. I asked to talk to a superior and was given a voice mail. I asked for a return call. The call was returned 48 hours later. I was informed that Amerock would not sell parts for the lock, only the whole lock. The reason was that Andersen owned the tools and designs so they had to comply with Andersen's wishes. Andersen's wish is that no parts should be shipped. No spring. End of story.

*Marvin A. Meyer
 Iowa*



Security Café

**DROP IN FOR
 TOOLS, TECHNOLOGY
 & EQUIPMENT**

RA-Lock Tamper Proof Key Rings

CIRCLE NUMBER 305
 R A - L o c k Company's tamper proof key rings seal in seconds and prevent undetected key removals or substitutions. If forced open, the seal is destroyed, showing that the ring has been tampered with. A serialized number on each ring prevents ring substitution. The 4mm diameter ring and seal permits smooth movement of keys around the ring. Serialized rings of different sizes can accommodate up to 66 keys.

Increase Profits and Clientele Base with Kaisa Marketing System

CIRCLE NUMBER 304
 Marketing and locksmithing are like a solid marriage; they go hand in hand. I teach businesses how to dramatically and very quickly improve their businesses and create a constant predictable stream of new customers. I've designed a system exclusively for the locksmith business. All compiled in one easy to use, step-by-step, marketing success system.

Here are just a few of the benefits my system offers:

- How To Increase Your Profits On Every Job.
- How To Stop Wasting Money On Ads That Don't Work.
- How To Double The Response To Your Yellow Pages Ad Without Getting A Bigger Ad!
- How To Get Customers To Refer You!
- How To Get Other Businesses To Get New Customers For You-For Free!

Major Manufacturing Announces the HIT-110



The HIT-110 is one of four brand-new templates that you'll find helpful and necessary tools to have at your disposal. The HIT-110 aids in quick and accurate installation of Marks I-QUE pushbutton locks. Each HIT-110 unit comes equipped with hardened drill bushings on both front and back plates to allow drilling from either side of the door. The template is able to accommodate doors up to 2" thick and thru-bolts to the door by utilizing the existing 2-1/8" cross bore for alignment.

New STI Stainless Steel Web Stoppers®

CIRCLE NUMBER 302
 STI announces a new series of heavy-duty, 9-gauge stainless steel wire guards to protect smoke detectors in applications involving food, such as restaurants, commercial kitchens as well as food processing, water treatment plants and other uses. They are called Stainless Steel Web Stoppers by STI because they incorporate a patented web-like octagon shape, that simulates a spider's

Schlage® Introduces the New Everest™ Primus® High Security Key System

CIRCLE NUMBER 306
 The new Everest Primus key system from Schlage combines all the features of Primus high security cylinder technology, with the advantages of the recently patented Everest keyway. The Everest Primus key system is protected by six utility and design patents through 2014 and provides factory-controlled distribution of key blanks, for optimal security protection.



It can be used in the same key system as conventional Everest cylinders with compatible keyways and with all types of hardware. Its enhanced security features and patent-protected keyway guard against unauthorized key duplication as well as undetected entry due to cylinder tampering. Cylinders are highly pick-resistant and are available with UL437 drill resistance. A three-year warranty attests to the durability of the system components.

web, for added strength. Three sizes are available, including two for flush mounting and one for surface mounting. They are easy to install and, for all sizes the L.E.D. indicator on the protected smoke detector remains clearly visible. For added protection against abuse, tamper-resistant hardware is available.

As their STI polyester coated cousins, these new covers are backed by a lifetime guarantee against breakage in normal use.

PRO-LOK's GL100 3 in 1 GUNLOK



We believe that PRO-LOK offers the solutions to firearm safety that both the consumer and law enforcement agencies desire.

The GUNLOK features three levels of safety and security and is available keyed alike or keyed differently.

Level 1-Instant Access-Unlock your gun in less than one second anytime, anywhere, one-handed, in the dark as long as you know the opening procedure. Provides the appearance and security of a key-locking unit, while offering Instant Access without the use of a key.

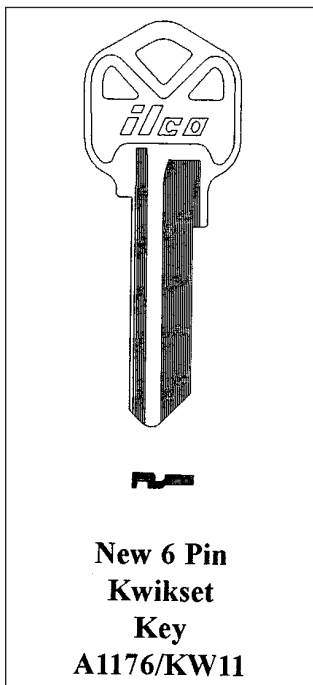
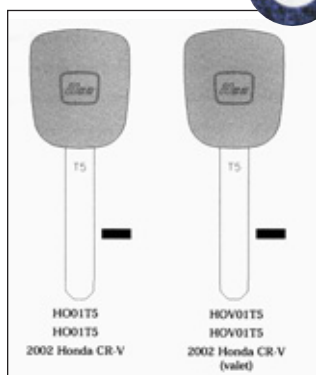
Level 2-Key Locking-When locked with the key, the key must first be returned to the unlocked position. Then the Instant Access procedure must be used to unlock the GUNLOK.

S E C U R I T Y C A F É

Level 3-Cable Secured-By the inclusion of an optional cable, the firearm can be secured to any stationary object to prevent theft and ensure child safety.

The GUNLOK is attractively packaged for individual sale. Counter top displays are also available. Free Promotional Flyers may be ordered.

Kaba Ilco Keys



**New 6 Pin
 Kwikset
 Key
 A1176/KW11**

Kaba Ilco Corp. is introducing keys for the 2002 Honda CR-V. Key HO01T5 is for the lock and ignition, while HOV01T5 is the valet key. The company is also

introducing a 6 pin Kwikset key, which will eventually replace the current Titan key. The key will use the "K" design, that in the past had been associated only with the standard Kwikset key. According to Ilco, the key heads of both the 5-pin kwikset and new 6-pin kwikset/Titan keys are identical, so it becomes important to compare the shoulders of the keys to assure that duplicating is being done with the correct key blank. The new 6-pin key will have the same offset shoulders as the "old" Titan key.

The blade specifications for both the "old" Titan key and the new Kwikset 6-pin key are the same, so the existing Titan key may be used or all 6-pin applications. A1176KW/KW11 is the Ilco/EZ number for the new 6-pin key.

Marks U.S.A. Adds Flexibility To Its "Survivor" Lever Locksets



Marks U.S.A. have enhanced the "Survivor" cylindrical locksets, enabling them to operate in a greater range of door conditions. Installation in older, poorly maintained doors or hollow metal doors with insufficient lock reinforcement can now be done without requiring sensitive adjustments. The lockset, which is self-adjusting within 1-5/8" to 1-7/8" door thickness, installs with just two #10 through bolts. Also available are models for doors up to 2-

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1/4" thickness, and spacer kits for doors of 1-3/8" thickness.

The "Survivor" series is available in both the "American" and the more rounded "Crescent" style levers, with both featuring the "Clutch" mechanism in ANSI grades one and two, and are available with either conventional or IC core cylinders. These quality-engineered locksets are manufactured in the U.S.A.

Compound



Leverage Scissors
The SOG® CrossCut™,

from Jensen Tools, is a precision instrument with 11 everyday essential tools, including: extended length compound leverage scissors, full sized tweezers, small and medium screwdrivers, bottle opener, nail file, pick, knife blade, rulers, and lanyard loop. This versatile multi-tool is only 2-1/2" closed and just 4" opened.

Wedgeco's Broken key



extractor Kit
The Newly Designed Patented 2 in 1 Pliers are

longer, thinner and hold open shutters and tumblers, for broken key removal on all automobile ignition and door locks.

Also great for master keying, the tip now has tiny teeth for holding the smallest master pins. Extra long .040 Spiral Wire Extractors.

Adams Rite introduces New 4591 Deadlatch



Paddle

This new ergonomically designed paddle makes opening a latched swinging door as natural as opening

an unlatched one - just push or pull in the same direction as the door swings and you're out. The recently designed paddle is an attractive, ADA friendly alternative to knobs or levers. It has a contoured, ergonomic shape and a very smooth operation for either pushing or pulling. A simple hex key is used for dogging the paddle.

The 4591 Deadlatch Paddle is available in a variety of finishes and can be ordered with a monitor switch kit. The 4591 Deadlatch Paddle is available in four operating modes: Push to left, Push to right, Pull to left and Pull to right. The device can be reconfigured to any mode in the field.



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TUBULAR KEY MACHINES

PART 1



by
Bob Sieveking

Generating and duplicating tubular keys has long been a regular profit maker in this shop. I'm sure that you will find shops across the country that will agree with that statement. Some shops will cut less than a box of keys in a year. Others will make fifty keys in a week. Some shops only need to be able to make or duplicate the occasional key. Others need to be able to make tubular keys on a daily basis. If you operate a strictly mobile business you may only want a machine that you can carry to the job. If you have a large walk-up trade, you will need a machine that can generate a single tubular key or ten duplicates in the shortest possible time.

Soft drink and vending companies were our largest tubular key customers. Over the last few years, "U-Store-it" type storage companies have become the most frequent buyers. Call on some of the storage companies in your area. You will find that they are always trying to save a few dollars by recycling locks with lost keys. Possibly they only need someone to make keys (duplicates) for cylinders that only have one key. Tubular key business is out there. You only have to go out and get it.

This month we will take a close look at the top six tubular key machines in the market place. Each of these machines have specific features that separate them from the others. The HPC "Pocket Cut-Up™" is less than four inches long, weighs less than a pound, and fits in the palm of your hand. The Framon TKM-100 ships at thirty-seven pounds, and definitely will not fit in the palm of your hand.

HPC Pocket Cut-Up™

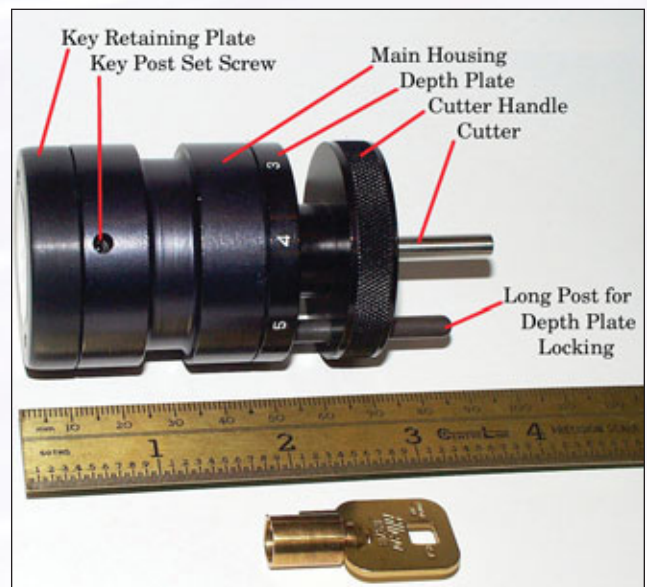
HPC's Pocket Cut-Up™ (TKM-90), shown in *photograph 1*, is easily the smallest tubular key machine. Made of black anodized aluminum, it is 1-5/8" in diameter, and slightly less than 4" long. It is a portable hand held tubular key machine. It is designed to cut standard 137 diameter keys by code. It can cut 7-pin tubular keys in the centered configuration, offset-left configuration, and offset-right configuration. It also cuts 8-pin configuration and the longer Guarded Greenwald tubular keys. The cut depth calibrations are appropriate to Fort Gem™ and Chicago Ace™ cylinders.

The HPC Pocket Cut-Up™ consists of four components. They are the; Key Retaining Plate, Main Housing, Depth Plate, and the Cutter handle and cutter assembly.

The Key Retaining Plate is positioned by two steel posts. The longer post passes through the Main Housing and Depth Plate, locking them together at any of the eight calibrated depths. This prevents the Depth Plate from rotating as the key is being cut. The Key Retaining Plate is milled out on the underside. The hollow plate acts as a protective cover for the cutter and Key Positioning Post. When the Pocket Cut-Up™ is closed, as you see in *photograph 1*, the cutter and key post are completely shielded. This feature will prevent accidental damage to the tool.

The Main Housing is threaded to receive the Depth Plate, and acts to accurately position the cutter and key for cutting. The Key Post Setscrew retains the Key Post in the Main Housing. The cutter shaft rotates freely in a pressed-in metal bushing.

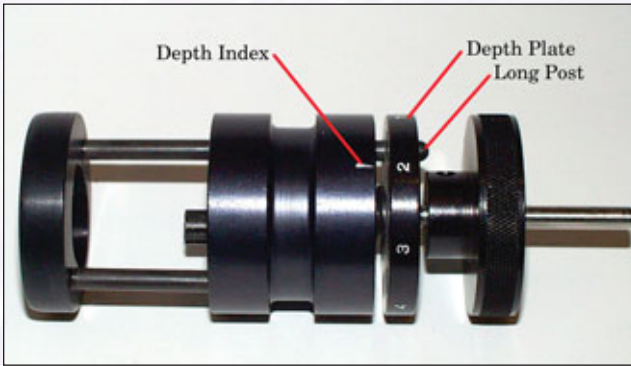
The Depth Plate is lettered 0 - 7, to denote the eight calibrated depth positions. A threaded steel shaft at the center of the Depth Plate, causes it to separate from the Main Housing as it is rotated in a counter-clockwise



1. HPC's Pocket Cut-Up™ (TKM-90).

Continued on page 21

Continued from page 18



2. Notice that the Depth Plate has been rotated.

direction. The calibrations on the Depth Plate will align with the Depth Index on the Main Housing, to indicate the desired cut depth.

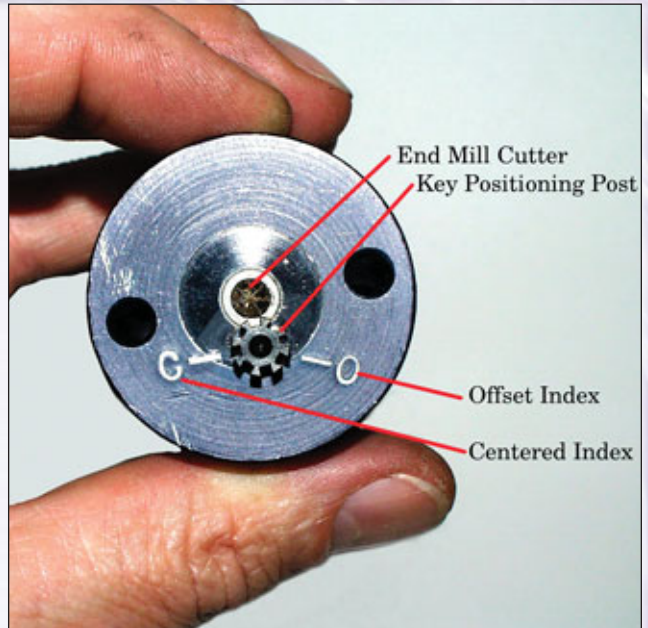
The Cutter Handle allows us to rotate the end-mill type cutter to mill away the tip of the key blade. The Cutter handle is always rotated “Clockwise” to cut the key. Counter-clockwise rotation will damage the cutter. The Cutter Handle and Cutter are locked together by a setscrew.

Photograph 2, shows the Pocket Cut-Up™ opened. Notice that the Depth Plate has been rotated to bring the Number “2” to the Depth Index on the Main Housing. As the Key Retaining Plate is assembled onto the unit, a post passes through a hole in the Depth Plate, locking it in place. The post fixes the Depth Plate in the selected depth position as the key is being cut. The space between the underside of the Cutter Handle and the Depth Plate closes as the cutter mills away the key blade. When the cut reaches the selected depth, the Cutter Handle will contact the Depth Plate. The position of the Depth Plate determines the depth of the cut made in the key.

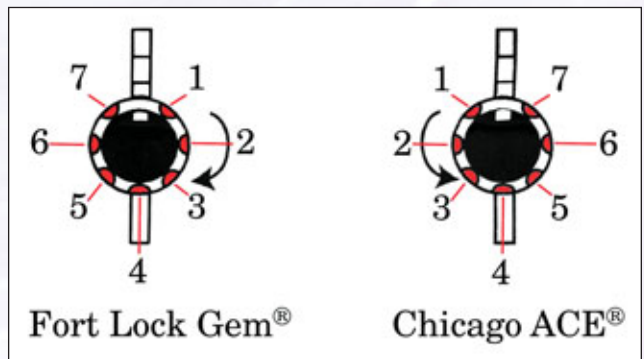
We saw how the cut depth was selected. Let’s take a look at how the cut position is determined. *Photograph 3*, shows the Key Positioning Post and the End Mill Cutter. The Key Positioning Post has eight milled “keyways.” The keyways allow the key to be slipped over the post in any of eight specific positions. The square bit, or positioning key, inside the barrel of the tubular key engages the Positioning Post to prevent the key from rotating out of position as the key is cut.

The Pocket Cut-Up™ shown, is set to make “7-pin centered” configuration keys. The keyway directly under the cutter would never be used in this set-up. This configuration will be used in about 85% of the keys you will be asked to make. The “7-pin centered” configuration is by far the most common configuration you will see.

To change the machine to cut “offset-right,” “offset-left,” or “eight -pin” keys takes only a few seconds. Place a tubular key over the Key Positioning Post with the flat blade tip (retaining key) pointing to the centered index line. Use the provided Allen wrench to loosen the Key Post setscrew (see *photograph 1*). The Key Post will be free to rotate to the offset index. Rotate the key to position the flat blade tip (retaining key) at the offset index and tighten the Key Post setscrew. The machine is now set to cut offset and eight wafer type keys. To return to the centered configuration, reverse the above procedure.



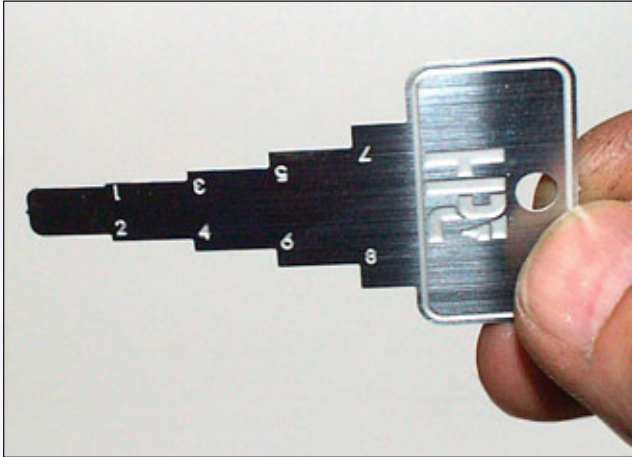
3. The Key Positioning Post and the End Mill Cutter.



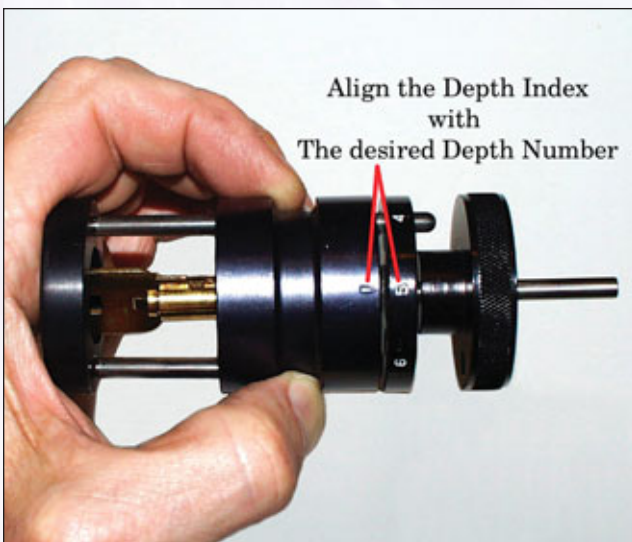
A. The key on the left is numbered clockwise, as you look at the tip of the key. The keyway on the right is numbered counter-clockwise, as you look at the tip of the key.

Before we leave the subject of cut position, you should take a moment to make note of the two conventions in cut sequence. Much like regular pin tumbler codes, the sequence can be Bow-to-Tip or Tip-to-Bow. When you find a code for a tubular key, it can be given clockwise from the positioning key or Counter-clockwise from the positioning key. The difference, I believe, comes from whether we apply the code to the pins, as we face the lock cylinder, or the key, as we face the end of the key blade. *Illustration A*, should clarify the two code conventions. The key on the left is numbered clockwise, as you look at the tip of the key. This is the Fort Lock™ convention. If you have a Fort code, the code will read clockwise as you look at the tip of the key. The keyway on the right is numbered counter-clockwise, as you look at the tip of the key. This is the Chicago Lock™ or Ace™ convention. If you will imagine turning the Chicago key around as if to insert it into a cylinder, you will realize that the pinning of the cylinder, i.e. the direction the cuts would be numbered, would be clockwise. Anyway, FORT - FORWARD and CHICAGO - GO BACK (as you look at the tip of the key). If “Forward” is clockwise, “Go Back” is counter-clockwise. It doesn’t need to make sense. It’s just my way of remembering the proper cut direction.

If you are reading a key to generate a duplicate using a code machine, you will not run into the problem of cut direction (orientation on the key) or cut depth. If you have picked the cylinder, you can decode the pick in the same manner that you would a cut key. You can decode the key using a decoder like the one you see in



4. A decoder.



5. Notice the handy "Grip Ring" in the Main Housing.



6. The Herty Gerty™.

photograph 4. This decoder is included with the Pocket Cut-Up™. The decoder corresponds to the cut depths generated by the code machine.

If you are generating a key from a code sheet, you need to know the cut direction and that the Chicago depths are not the same as the Fort depths. The following table shows the difference between the Fort and Chicago depth definitions.

Fort Lock GEM™/APEX™	Chicago ACE™	Depth
1	0	.016
2	1	.032
3	2	.048
4	3	.064
5	4	.080
6	5	.096
7	6	.112
8	7	.128

A number one depth on the Chicago™ key would be .032" in depth. This is the same as a two depth on a Fort™ key. The HPC Pocket Cut-Up™ will cut a .016" depth cut when set to #1 on the Depth Plate. It is therefore calibrated to Fort depths. If you are cutting from a Fort™ code sheet, Fort depths will be correct. If you are cutting by code from a Chicago™ code sheet, add one (1) to the code for the correct depth.

As with all tubular keys, deburr the tip on a flat piece of emery cloth to remove the burr made by the end mill cutter. The burr on the tip of the key can hold your key out, preventing it from seating properly in the cylinder. Deburr the key to make it operate smoothly. Do not use a wire wheel to de-burr tubular keys. It rounds the end of the key and the cut seats.

Photograph 5, shows the HPC Pocket Cut-Up™ in use. Notice the handy "Grip Ring" in the Main Housing. The grip ring makes holding the tool much easier. We are set to make a #5 depth cut in the key.

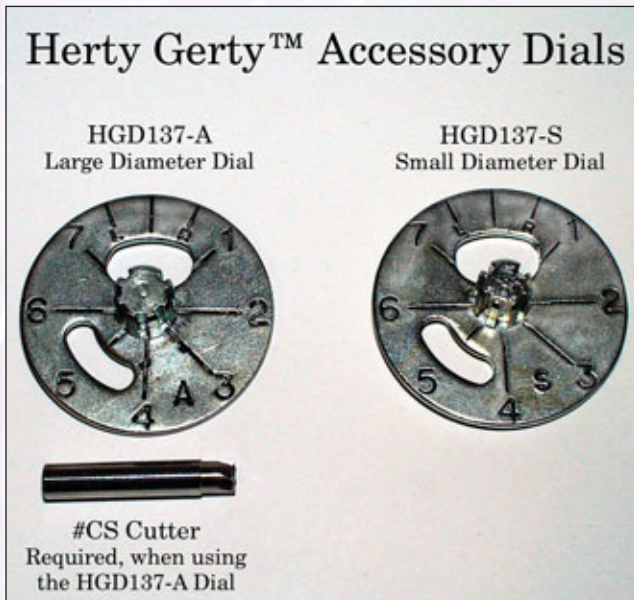
A Chicago ACE™ key was decoded using the HPC Decoder. A duplicate was made, by code, using the HPC Cut-Up™ key machine. The test key operated the test cylinder perfectly.

A-1 Security Manufacturing Corp. Herty Gerty™

The Herty Gerty™ portable tubular key machine shown in *photograph 6,* ships with everything necessary to generate 137 diameter standard tubular keys in the 7-pin centered, 7-pin offset left, and 7-pin offset right configurations. I'm sure that you could also make an 8-pin key by using the offset function to locate the eighth cut. The Herty Gerty™ uses a sixteen-thousandths inch (.016") step (difference in the depth of cut), and is calibrated to Fort Lock™ depths. If you are cutting from Chicago codes, be sure to make the adjustment in the code depths as outlined above. The kit comes with; the Herty Gerty™ machine, two Allen wrenches, a post type key/pick decoder, and a palm

Continued on page 26

Continued from page 23



7. There are two accessory dials.



8. This is the HGBM bench mount.



9. The method for holding the Herty Gerty™.

cushion. It is contained in a handy molded case with custom foam packing.

The first thing I noticed about the cozy little foam home for my Herty Gerty™, was that the foam had spaces for additional accessories. A quick call to A-1 Manufacturing solved the mystery. There are two accessory dials for the machine shown in *photograph 7*, which greatly enhance the utility of our Herty Gerty™ by allowing us to cut 137A (large diameter keys) and 137S (small diameter keys). The small diameter #CS cutter is necessary to make the minor diameter secondary cuts in the 137A large diameter key. These accessories allow us to expand the cutting capabilities to include large and small diameter keys, and cut-within-a-cut tubular keys.

A second accessory that I had seen but never thought necessary, is shown in *photograph 8*. This is the HGBM bench mount. This kit allows the Herty Gerty™ to be permanently mounted to a bench top, so you don't have to hold the machine while making a key. *Photograph 9*, shows the method for holding the Herty Gerty™ to make a key. With the machine in the left hand, the key is held tight to the positioning post by the palm. The rubber Palm Cushion makes this a little more comfortable. The hand crank is then turned clockwise to make the cut in the key. Do not rotate the crank counter-clockwise. Counter-clockwise rotation will damage the cutter.

Because I needed to illustrate the use of the accessory bench mount, I clamped it onto the Herty Gerty™ and set about testing it. Not having an instruction, I failed to place the wood block in the clamp with the tool. I thought it was just part of the packing. Wrong! The wood block is included to elevate the Herty Gerty™ above the mounting surface so you can turn the crank. I also realized why the bottom portion of the bench mount is made of such heavy channel iron. The heavy bottom bar is made so that you can clamp it in a small bench vise. I cut a key with the machine mounted, as you see in *photograph 10*, and realized, "I need one of these on the truck." The Bench/Vise mount accessory is a definite improvement on the ease of use for this tool.

Photograph 10, shows the Herty Gerty™ mounted in the Bench/Vise mounting accessory. The "Mystery Block" elevates the tool to allow full rotation of the Crank Handle. To set the depth of cut, loosen the Depth Nut Locking Screw. Select the desired depth on the Calibrated Depth Nut, and rotate the nut to align the point of the Crank Handle with the depth number. Tighten the Depth Nut Locking Screw to fix the depth nut in position. Turn the locking screw slowly to locate it in one of the Depth Screw Locking Holes. The tool is calibrated using the locking holes. Do not over tighten the Locking Screw.

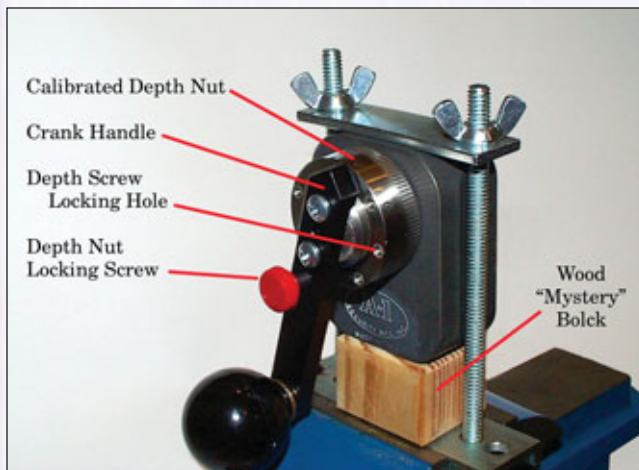
Photograph 11, shows the front of the Herty Gerty™. The Key Position Index aligns with the calibration on the Key Positioning Dial to indicate that we are set to cut a 7-pin centered configuration key. The Milling Cutter will make the cuts in the key blank. The Key Positioning Post has seven keyways, which will allow us to slip the key over the post in any of seven different positions. Notice that the Key Position Dial is numbered clockwise from

Continued on page 28

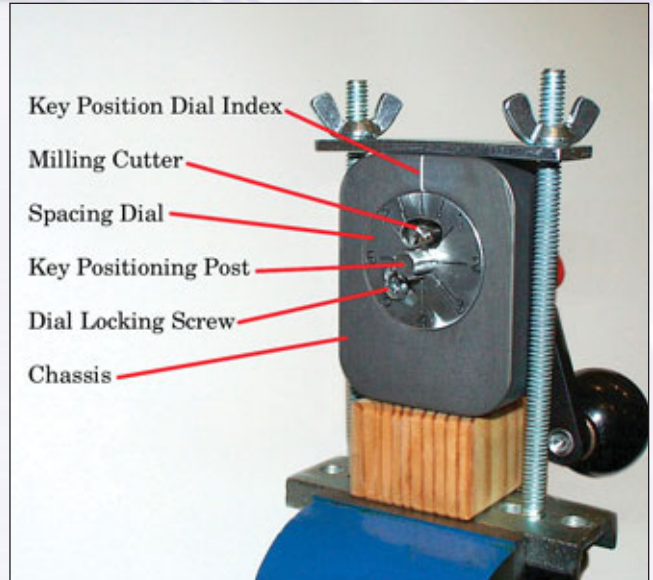
Continued from page 26

one (1) to seven (7). When a blank is slipped over the Key Positioning Post, with the flat locating key pointing to the number one (1) on the dial, a cut will be made in the number one position of the key. When a blank is slipped over the Key Positioning Post, with the flat locating key pointing to the number two (2) on the dial, a cut will be made in the number two position of the key. Cuts are made in a clockwise direction on the key, as viewed from the key tip. Reverse the code if you are working from a Chicago code list.

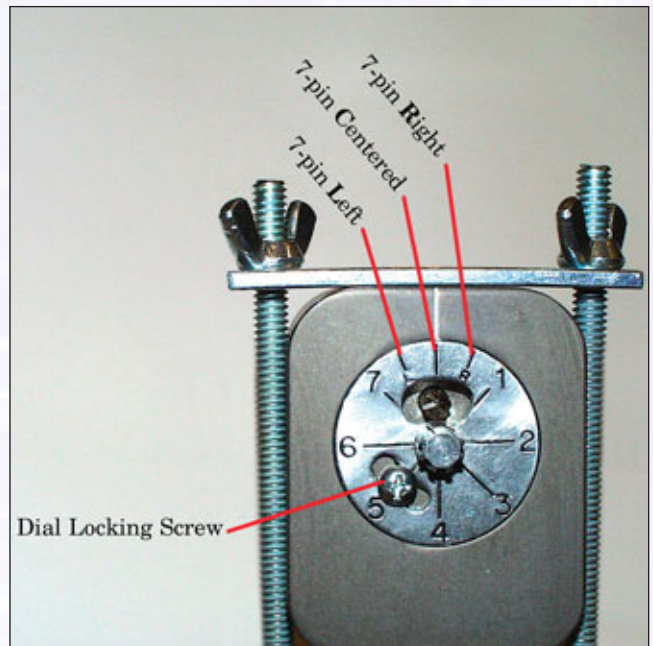
If it becomes necessary to originate a key using offset left, right, or eight pin configuration, you will need to set



10. The Herty Gerty™ mounted in the Bench/Vise.



11. The Key Positioning Post has seven keyways,



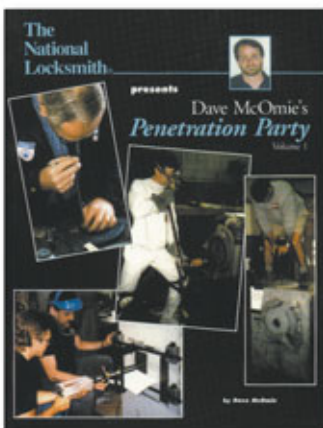
12. Loosen the Dial Locking Screw.

the Spacing Dial for this operation. Loosen the Dial Locking Screw, as you see in *photograph 12*. Slip a key over the Key Positioning Post, and rotate the key positioning dial to align the correct index on the dial with the scribed index on the tool chassis. Tighten the Dial Locking Screw to fix this calibration. Do not over-tighten the locking screw. If you are making an eight pin key, set the machine to “offset right” and make the first seven cuts on the key. Reset the machine to cut “offset left,” and make the remaining cut in position eight. This is not contained in the tool instruction, but it does work.

A Chicago ACE™ key was decoded using the A-1 Decoder. A duplicate was made, by code, using the Herty Gerty™ key machine. The test key operated the test cylinder perfectly.

Next time we will cover the HPC Scotsman™ 747XU Tubular Duplicode™ and the ILCO/SILCA Crown Tubular Key Duplicator. **TL**

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#PP - 1



2001

PT Cruiser



by Tom Seroogy & Randy Mize



It looks fine, it looks fun, and servicing the Chrysler PT Cruiser ain't all that bad either. Although there are a few components and steps unique to removing and installing the locks on this vehicle, for the most part the locksmith is pretty much faced with – you guessed it – a Chrysler.

Although in the SMART Key version of this vehicle a DART programmer is required for generating new keys, most any locksmith familiar with cars can quickly generate a mechanical key and/or service the locks on this high-priced Neon.

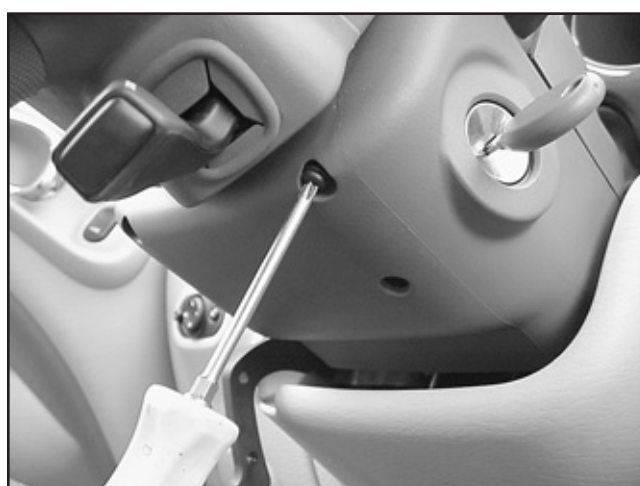
Opening:

The Cruiser can be opened using a simple hook or J tool. Reach inside the door, in line with the inside lock button. Grasp the inside button lock rod and raise to unlock the door.

Key Generation

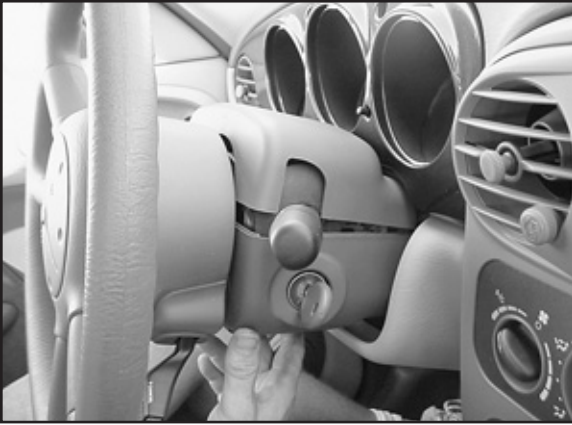
Generating keys for the Cruiser can be accomplished in just a few minutes using the Determinator or the SKT Wafer Reader. Read the door or deck lock for seven of the eight cuts (cuts two through eight), then progression cut one in the ignition.

Ignition Lock:



2. Using Strattec's 703719 or BWD's LC6940, ignition lock removal on the Cruiser is similar to and as simple as other Chrysler/Plymouth/Dodge and Jeep vehicles using the same ignition. Lacking the knob typically associated with an ignition, this particular lock has become Chrysler's favorite since the 1998 move to an 8-Cut sidebar ignition.

3. To remove this lock, the two-piece shroud is removed first, allowing access to the lock's retainer button. To begin shroud removal, use a #2 Phillips screwdriver to remove the shroud mounting screws.



4. Remove the upper shroud.



5. Then gently remove the lower shroud.



6. If a working key can be generated or is present, insert the key and turn to the ON position. If a key cannot be generated or is not present, drill the sidebar and rotate the lock. To locate the sidebar, use the lock's keyway as a guide. Horizontally, the sidebar is located at the center of the keyway, on the left side, or about the 9 o'clock position. Vertically, the sidebar is approximately 1/4" from the center of the keyway.

Picking & Impressioning



Here is the most complete book ever published on picking and impressioning locks! You will have everything you need to know about how to open almost every kind of lock that can be picked.

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#PI

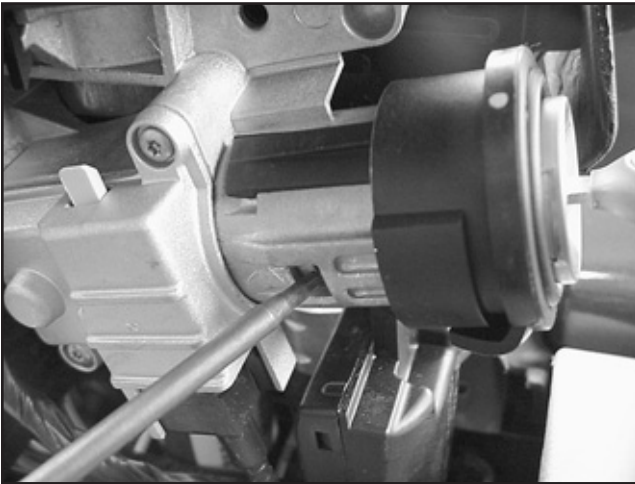
Pocket InstaCode



Pocket InstaCode has all the important features of the InstaCode program, packed into a program small enough to run on a Pocket PC.

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#PCODE-03



7. Use a scratch awl or other probe to depress the lock's retainer button.



8. Remove the lock.

Door Lock:



9. With the exception of a rather unique door clip, door lock removal is also fairly straightforward. The lock itself is Strattec's 703327.



10. First, gently pry off the small trim panel that hides the exterior mirror mounting bolt.



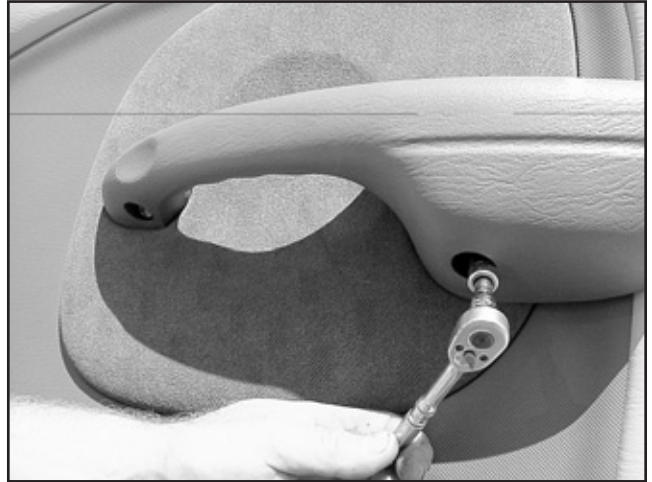
11. Next, while not absolutely necessary, we removed the lock button. This piece simply unscrews from the lock button rod.



12. Now, start removing the various Phillips head screws that fasten the panel to the door. One is found directly behind the release handle.



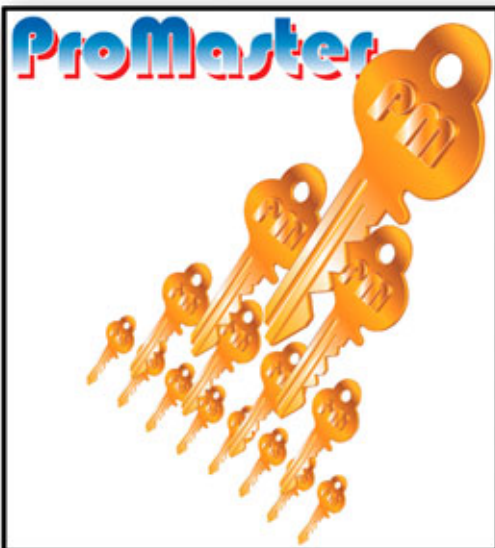
13. The rest can be found around the perimeter of the door.



14. Finally, use a 10mm socket to remove the armrest bolts.



15. As the latch release rod is still attached to the handle, gently pry the panel from the door



ProMaster 5

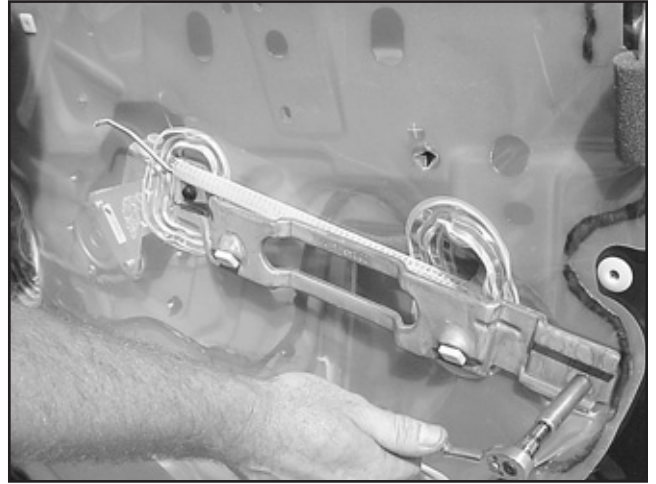
ProMaster 5 is without a doubt, the most comprehensive and easy to use master-key system management tool available anywhere in the world.

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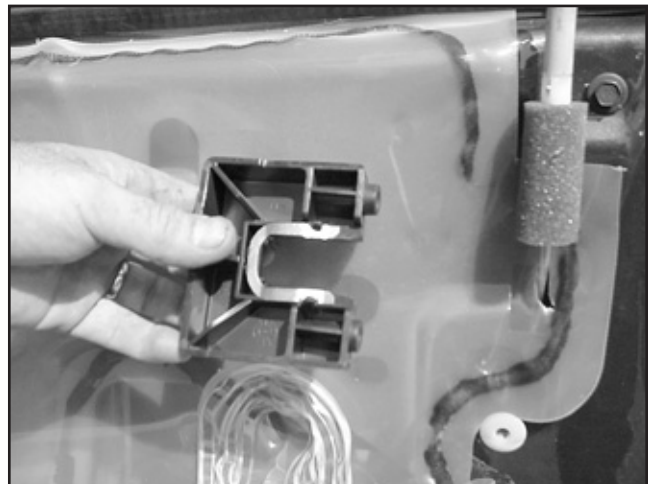
16. Remove the latch rod from the release handle and set the panel aside.



17. With the door panel removed, the armrest mounting plate blocks access to inside the door. Using a 10mm socket, remove the mounting plate and set it aside.



18. Removing the door clip on the Cruiser is more similar to the Volvo door clip than to any of its North American kin. Using a T30 Torx driver, remove the two Torx bolts that hold the door clip in place.



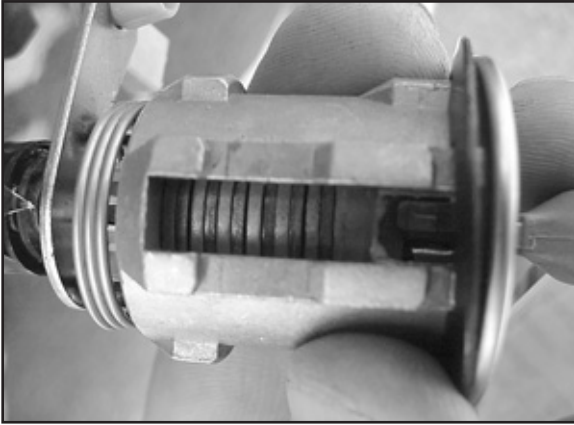
19. The door clip is actually incorporated into a larger plastic base. Remove the clip and its base.



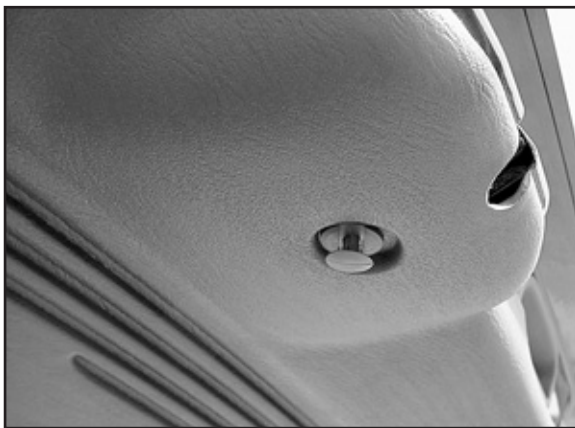
20. During lock installation, it is important that the clip and base be reinstalled exactly as removed.



21. With the clip removed, the lock can now be taken out of the door.



22. Typical of Chrysler door locks, seven tumblers appear in the lock.



Tailgate Lock:



23. The Cruiser includes a lift tailgate whose lock, Strattec 705744, is separate from the handle release.

24. With the tailgate open, a button panel retainer is found near the latch.

Safe Deposit Box Service

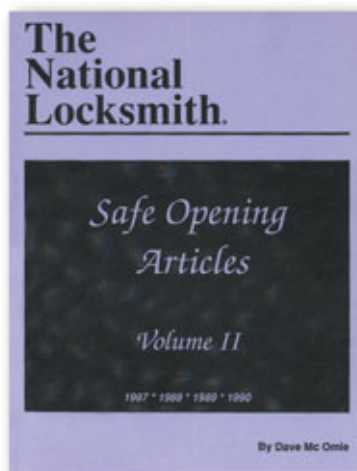


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#SDBS - 1

Safe Opening Articles



Dave McOmie's original articles from when he first started writing for The National Locksmith are reprinted in this book.

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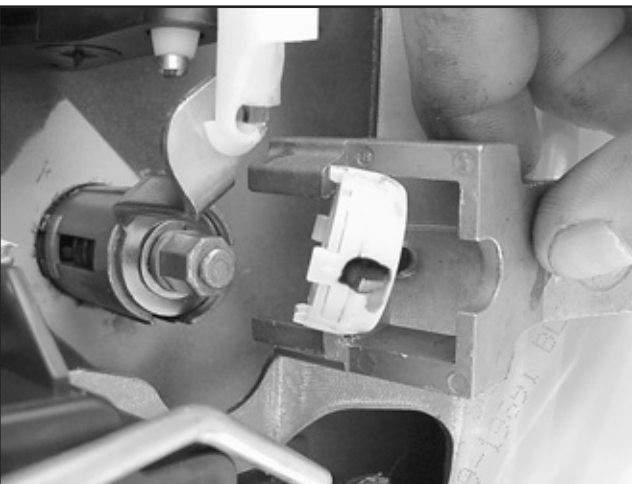




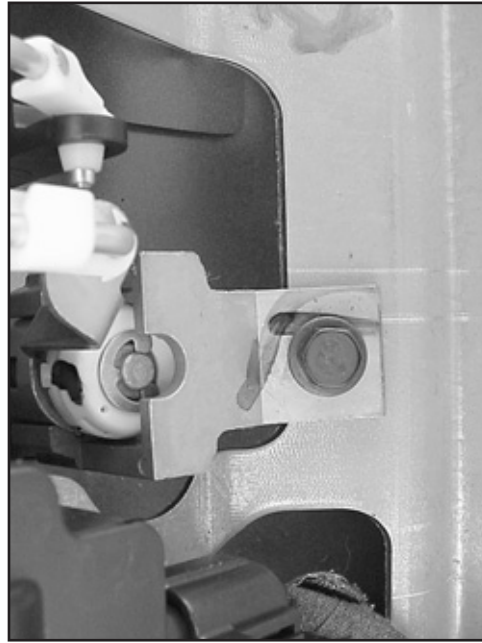
25. Gently remove this retainer, and then remove the tailgate trim panel.



27. This component is a large diecast block that is attached to the body of the lock and bolted to the inside edge of the tailgate. Use a socket to remove the bolt, and then disconnect the lock rods going to the lock pawl.



29. Once this is accomplished, the block will slide off and away from the lock body.



26.

With the panel removed, the lock is easy to access and remove, although it, like the door lock, has a single component not common to other Chrysler locks.



28.

Before the lock can be removed, the diecast block and the lock's retaining clip must first be removed. To remove the block, it is necessary to remove the snap ring, the lock's pawl and the electrical switch from the lock.



30.

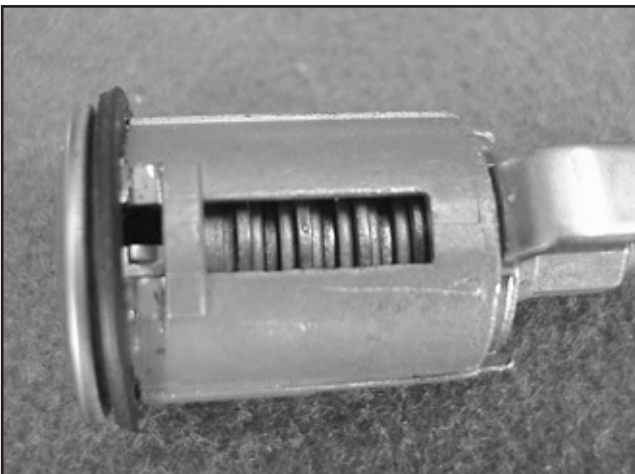
Finally, with the block removed, the lock's retaining clip is removed



31. The lock can then be slid out the back of the tailgate.

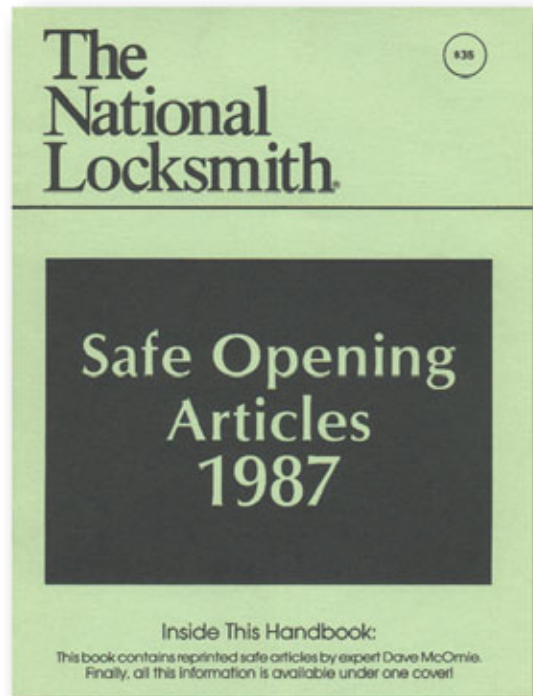


32. With the tailgate lock removed



33. You will notice that like the door lock, seven tumblers appear in the tailgate lock.

Safe Opening Articles 1987



Now under one cover—all the information safe opening articles by expert safeman, Dave McOmie.

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#SA - 1

Programming Procedures:



For programming, the following conditions exist:

34. The DART and a vehicle PIN is required for generating new keys or duplicating keys when less than two working keys are present.

- The Chrysler SMART system accepts a maximum of 8 keys.
- On board duplicating requires the presence of two working keys.

Duplicate Keys:

(On Board Procedure, requires to the presence of two working keys.)

- Duplicate key bitting onto new transponder key.
- Insert first working key into ignition lock and turn to ON. Security light will light. When light goes out, turn lock to OFF position and remove the key.
- Insert the second working key into the ignition lock and turn to the ON position. Security light will light. When light goes out, turn lock to OFF position and remove key.
- Insert duplicate key into ignition lock and turn to ON position. Security light will light. When light goes out, key is programmed.

Key Generation:

(Requires Strattec DART programming tool and vehicle PIN)

- 35. Plug DART data link connector (DLC) into vehicle.



- Follow DART programming:•
- From Main Menu select - SKIM FUNCTIONS•

40 • Visit www.TheNationalLocksmith.com

- Select – PROGRAM KEY(S)
- Enter PIN for the vehicle.
- Verify PIN number.
- Put new key into ignition and turn to ON
- DART verifies that programming of key is successful.
- DART asks if more keys are to be programmed.

Technical Information:

Key System: Chrysler 8-Cut

Security: SMART Key

Key Codes: M0001 - M2618

Lock Manufacturer: Strattec

Ignition: Strattec – 703719

BWD – LC6940/LC6940U

Door: Strattec – 703327

Tailgate: Strattec – 705744

Service Kits:

Strattec – 703927

BWD – SK6949

Key Blanks:

Strattec – 690222 Chrysler Logo

- 598495 Chrysler Pentastar

Ilco – Y160-PT

Jet – Y160-PHT

Key Machines:

HPC 1200CMB - CX102

Pak-A-Punch – PAK-C5

Curtis – Cam CHRY-5/Carriage CHRY-5A

Framon – Lay tip stop clip against left side of vice, tip stop key against clip. Set first cut at .309". Spacing Block #3, Cut-to-Cut .092". See chart below for depths.

Spacing & Depth:

Stop: Tip Stop, all spacing gauged from tip.

1 – Standard Spacing

2 – Framon Spacing

Space 1	Space 2	Depth
1 .941"	.953"	.340"
2 .849"	.861"	.315"
3 .757"	.769"	.290"
4 .665"	.677"	.265"
5 .573"	.585"	
6 .481"	.493"	
7 .389"	.401"	
8 .297"	.309"	

For information on the DART, Determinator, SKT Tool, Strattec parts, or any tool or part involved in servicing the PT Cruiser, contact Lockmasters at (800) 654-0637, or visit their web site at www.lockmasters.com. Circle 283 on Rapid Reply.



Quick Entry

UPDATE



by
 Steve
 Young

TECH TRAIN PRODUCTIONS

2002 CHEVROLET TRAILBLAZER

I've never been able to figure out exactly what distinguishes a Sport Utility Vehicle (SUV), from a station wagon. I suspect that it's the styling as much as anything else. Many SUVs appear to simply be a station wagon or a mini-van designed to look a little like a truck. The new family of SUVs from General Motors, sure look a lot like station wagons to me.

The new Chevrolet TrailBlazer (see photograph 1), Oldsmobile Bravada and GMC Envoy have all of the classic station wagon features, plus a bit of truck styling. Since this seems to be what the American public wants, these vehicles are already becoming quite popular, despite the fact that the vehicles got off to a rocky start. Shortly after these vehicles were released, every single one was recalled due to a potentially catastrophic problem with the front suspension.

When we disassembled the doors on the TrailBlazer, we found two relatively easy methods for unlocking it. Both the front and rear doors of the vehicle are equipped with horizontal linkage rods. Even though the weather-stripping fits very tightly on this vehicle, both rods can be attacked with the proper tools. We found the rear door the easiest to unlock, but the most difficult to photograph. The inside lock control linkage rod is located relatively high in the door. With the door panel removed, the only way to see this linkage is to look up into the door cavity from below.

Photograph 2, shows the inside of the rear door with the door panel removed. The dotted line shows the location of the horizontal linkage rod



1. 2002
 Chevrolet TrailBlazer.



2. The dotted line indicates the position of the horizontal control linkage rod.



3. The TT-1001 tool hooked around the inside lock control linkage.



4. Wedge open the weather-stripping on the rear door as far to the rear as possible.

Quick Reference Guide	
Vehicle: 2002 Chevrolet TrailBlazer, Oldsmobile Bravada and GMC Envoy	Security System: PassLock I System (MRD)
Direction of Turn (driver side): Clockwise - No lock on the passenger side door.	Bitting: Ignition: 1 - 9; Door: 3 - 9; Rear Hatch: 4 - 10; Compartment (if equipped): 7 - 10.
Tool: TT-1001, TT-1008 or Jiffy-Jak Vehicle Entry System	Code Series: S000A - S711K
Lock System: GM 10-cut system	Key Blank: Strattec: 598007 (Chevrolet logo) 598009 (GMC logo) 598012 (Oldsmobile logo), Iico: B102; Curtis: B-102; Jet: B-102P.
Lock Manufacturer: Strattec	



5. Insert the TT-1001 tool with the hook pointed forward.



7. Wedge open the weather-stripping near the center of the front door.



6. Lever the linkage rod forward to unlock the door.

8. The cable of the power window mechanism is used to help position the tool.



9. Twist the tool and lever the linkage rod forward to unlock.

inside the door cavity. There is an anti-rattle tube made of plastic webbing around the linkage rod. This tube is not a guard and will not interfere with your ability to unlock the door.

To unlock the TrailBlazer through the rear door, use the TT-1001 tool. (See photograph 3.) The TT-1008 tool can also be used for this, but after a little experimentation, we decided that the TT-1001 was easier to use.

Begin by wedging open the extreme rear of the window on the rear door. (See photograph 4.) Insert the tip of the tool with the hooked end of the tool pointed forward. Lower the tool until the tip is just below the level of the outside door handle, then turn the hooked end of the tool toward the inside of the vehicle. Pull up on the tool until it

stops as the tool hooks onto the horizontal inside lock control linkage. (See photograph 5.) Twist the tool to bind the linkage and then lever the linkage rod forward to unlock the door. (See photograph 6.)

The front door was easier to photograph, but was also a little more challenging to unlock than the rear door. To unlock the front door, begin by wedging open the weatherstripping near the center of the door. (See photograph 7.) The weatherstripping on the front door fits very tightly and near the center of the door is the only place that you will have room to insert the tool easily.

Insert the short end of the TT-1008 tool and lower it until it is below the base of the window glass. Once the tool is below the glass, rotate the tip of the tool slightly toward the inside of the vehicle and then lower

the tool until it stops. At this point the tool will be in contact with a heavy cable that is a part of the power window mechanism. This will put the hooked end of the tool slightly below the inside lock control linkage rod. Rotate the tool so that it is pointed toward the inside of the vehicle and then pull up to hook onto the linkage rod. (See photograph 8.) The rod can also be located visually by using an inspection light, but I found it easier to locate the rod by feel. Once the tool has hooked onto the linkage rod, twist the tool to bind the linkage and then lever the linkage forward to unlock the door. (See photograph 9.)

The heavy frame around the window glass on these vehicles also makes them very easy to unlock by using the Jiffy-Jak Vehicle Entry System.

TNL

Borescopes

Unless you have the ability to insert your eye into a 1/4" hole or see around corners, sooner or later you're going to need a borescope, especially if you do safe work. While not an absolute necessity, a borescope in the right situation can sure be an indispensable tool. While it's true that a good borescope can be expensive, with today's precision micro technology manufacturing processes, the cost of a quality scope has dramatically dropped in recent years. You no longer need a second mortgage just to invest into a few borescopes, and once you have a good one, you will never want to be without it.

Hawkeye Borescopes from MBA USA, Inc.



Hawkeye Precision Borescopes have been the scope of choice for technicians seeking quality, as well as affordable viewing for safe work. These scopes are available in lengths of 7, 12, and 17 inches—any one of which is suitable for a variety of safe opening techniques. Each of these popular scopes permits both direct and side viewing within a safe. The shorter lengths are perfect for jobs that require drilling into the front of a safe, and the longer length is ideal for "side" and "back" attacks. Several illumination options are also

available, from the standard "mini-mag" attachment, to the rechargeable Nova, all the way up to the Luxxor light generator. Other options for your Hawkeye scope include focusing and "right angle" eyepieces and deluxe carrying cases.

Hawkeye also makes an affordable flexible scope. This scope includes a focusing eyepiece, Nova light source and a nice hard-shell carrying case.

In addition to these fine Hawkeye scopes, MBA USA is also a source for renowned Karl Storz borescopes. Storz scopes are considered among the finest optical instruments in the world. Virtually any length or diameter scope that can be produced is available from this manufacturer, including articulated flexible scopes.

Whatever your viewing needs, MBA USA can supply the ideal solution to fit your needs and budget.



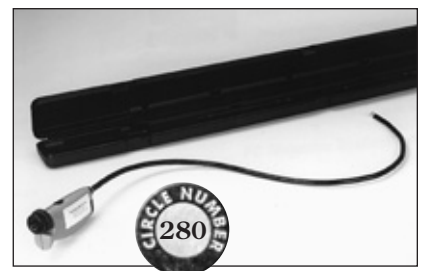
AngioLaz Color Video Borescopic System

The AngioLaz VBS-1mMH converts existing flexible or rigid borescopes to a convenient, easy to use, high intensity, illuminated video borescopic system. The high intensity metal halide illuminator is ideal for applications where high

brightness is required. The included camera automatically adjusts to make it useful in less difficult conditions. The daylight quality of the light provides superb color rendition. The combination provides clear, convenient images, in hard-to-reach locations, by separating the scope from the viewing function. At the same time, it permits viewing by several persons simultaneously, so the areas of interest can be pointed out and documented.

The VBS-1mMH consists of a small remote head video camera and coupler, which attaches with a single cable to the base unit. The base unit, which has a handle for easy portability, is a 10" color monitor, with a built-in high-intensity, 24-watt, removable metal halide module.

Titan Tool Supply Co. Flexible Borescope



Titan Tool Supply Co., Inc., has added a unique, low-cost flexible borescope to its expansive line of borescopes. Priced as low as

\$259.00, the “VB” Value Series Borescope is said to provide an excellent viewing instrument for use in diverse applications, including: Aircraft and automotive maintenance; plumbing, electrical and HVAC work; building construction and maintenance; manufacturing and quality control; extermination, locksmith and security systems, and by “do-it-yourself” homeowners.

The flexible borescope can be inserted into openings as small as 1/2” in diameter and has a battery-powered internal light source, which illuminates a 40° field of view. An ergonomically designed handle enables one-handed focusing and light activation, freeing a worker’s other hand.

Titan reports that the “VB” Value Series Borescope incorporates rugged design features, including a high-impact ABS plastic handle and water-resistant, stay-put flexible sheathing.

Two models are available: VB-18 with an 18” length and VB-36 with a 36” length. All borescopes are shipped in rigid plastic carrying/storage cases

Titan Tool’s broad line of borescopes include flexible and rigid borescopes, with diameters as small as .027”, lengths up to 20 feet, various illumination options, and video-adaptable capabilities.

MDS



When opening a safe, you want to spend as little time as possible looking for the right tool for the job. Until now, safe work with a borescope has been visualized with mirror tubes, requiring the technician to think “backwards”. MDS, Inc. introduced the first borescope with a 30-degree prism and 80-degree field of view, virtually eliminating the need for mirror

tubes. The 6” X 0.22” PS1000 borescope (also available in 12”, 17” and 24” lengths) has the widest field of view in the industry and was built to withstand harsh treatment. With the small diameter and wide field of view, the technician can visualize all of the wheels in the mechanism simultaneously, while manipulating the dial.

Portable illumination is delivered by a Xenon-powered, rechargeable flashlight with a custom adapter to fit our scope. This rechargeable flashlight provides up to 15,000 candlepower and is rechargeable up

to 1000 times. This powerful light source comes with an extra bulb and a 10-year manufacturer’s warranty. The PS1000 is easily adaptable to most CCD cameras, with a focusing coupler that attaches directly to the eyepiece for easier viewing on a monitor. If you’re tired of seeing everything in reverse, take a look at the MDS Inc. PS1000 borescope and Stingerlite System. You’ll never go back to using mirrors.



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- Volume 2 - Modern Safes
- Volume 3 - Antique Safes
- Volume 4 - Antique Safes
- Volume 5 - Very Recent Safes

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#SO - 1, SO - 2, SO - 3, SO - 4, SO - 5



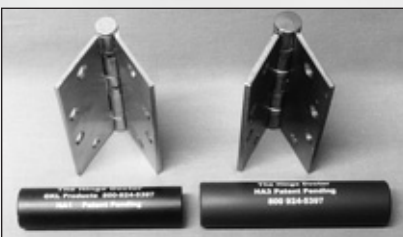
The Hinge Doctor



by
Sal Dulcamaro,
CML

There are some locksmiths who not only service and install locks, but they also service and install doors — commercial doors included. Many locksmiths who steer clear of door installation will also avoid bothering with door problems not directly related to the locks on the door. Door problems, to the uninitiated, can be a lot of work and trouble. Many locksmiths will refer door problems to a door company and send the potential profit along with it.

Sagging doors caused by bent hinges is one fairly common problem. The typical fix might be to remove the hinges and to reshape or replace them. That job can be quite awkward and time consuming. The time and hassle alone would be reason enough for many locksmiths to leave it to the “door experts”. A newly introduced tool will give many locksmiths the chance to keep a lot of that income for themselves,



1. The Hinge Doctor.

instead of referring it away. It may even make them look like door experts, without having to expend a lot of sweat and energy.

The tool is called “The Hinge Doctor”, and it is currently available in two versions which are shown in *photograph 1*. The black tool on the left is model #HA1, and is designed for adjusting standard commercial hinges that are 4- $\frac{1}{2}$ ” by 4- $\frac{1}{2}$ ”. The larger tool on the right is the #HA3 and is designed for use with ball bearing hinges up to 5- $\frac{1}{2}$ ”.

Photograph 2, shows how the tools fit onto the hinges for adjustment. The hollow openings of the tools slide over the hinge knuckles. The tool is designed to reshape the bent hinges without having to remove the door or hinges. The opening capacity of the hinge is dramatically limited with the tool in place, as shown in *photograph 3*.

I first made brief mention of this tool last year in an “Odds and

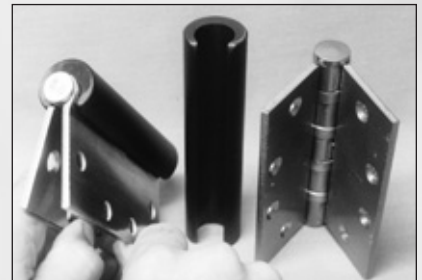
Ends” article. I thought it was an interesting concept for a tool but hadn’t had the opportunity to test it on any hinges. It seemed that I would routinely run into sagging doors, when I wasn’t ready to do something about it. When I wanted to find one to try out the tool, it seemed that all the doors I found were fine. Later I loaned the tool out to another locksmith I know (an institutional locksmith). I figured that he would see and deal with more door problems than I typically would. When I asked how the tool was working, he said it worked great. I decided to let him keep it, because I figured he would have more opportunity to use it than I would. Since then, I’ve heard similar glowing reports from other locksmiths.

At the time, only the #HA1 (standard) tool was available. Since then, the #HA3 was introduced. I got the new sample tools and this time got a chance to put one of them to the test. *Photograph 4*, shows one of

Continued on page 48



2. How the tools fit onto the hinges.



3. The opening capacity of the hinge is dramatically limited.

Continued from page 46



4. One of the doors I used for my test.



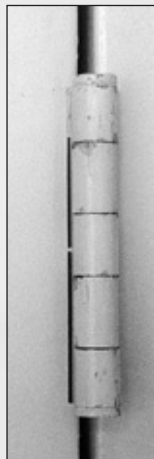
5. The gap at the top left corner of the doorframe.

the doors I used for my test. This door was less dramatic than the other one, but I was only able to photograph the adjustment made for this door. The main problem with this door was that the bottom left surface of the door was dragging on the threshold and the door closer was not fully closing the door.

Photograph 5, shows the gap at the top left corner of the doorframe. I made a pencil mark to indicate the height of the door against the doorframe, because some of my photos were at different distances and apparent gap changes would not be so apparent to the reader. The #HA1 tool is for standard 4-1/2" by 4-1/2" hinges. For the most part the tool will fit over the hinge knuckles very easily. The hinge in *photograph 6*, has quite a few layers of paint over it and I had to tap the tool into place to use it. The Hinge Doctor tool is in place in *photograph 7*. Normally I would have to hold it in place to *photograph* it, but the paint did the job for me.

Photograph 8, is a full shot of the door with the tool in place on the top hinge. Most adjustments you do will

6. The hinge has quite a few layers of paint.



7. The Hinge Doctor tool is in place.

be on the top hinge, although occasionally you may find the need to adjust the middle hinge too. Part of the problem with this door was the original installation of the door and frame. The gaps along both the left and right sides of the door are fairly even along the full height. The left side of the doorframe was lifted a bit too high when it was installed, and that limited how much adjustment I could make without creating another problem with the door.

The actual adjustment is quite simple and fairly quick. With the Hinge Doctor on the hinge, in *photograph 9*, pull outward carefully on the door until you feel it try to stop. That will typically be just a few inches. Any force you apply further will cause the hinge plates to start to bend (or reshape). I wasn't sure how much room I had to shift the door, so I pulled open about four inches past the point that the door resisted opening. You can feel the door trying to go back the other way. I closed the door to see if it shifted any, by comparing the pencil mark to the



8. Most adjustments you do will be on the top hinge.

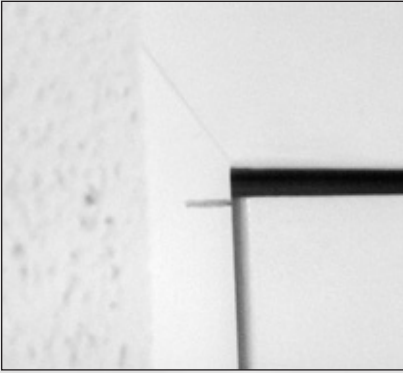


9. Pull outward carefully on the door.

current height of the door. I repeated the process a few times until I was satisfied with the level of adjustment. Because of the paint, I had to tap the Hinge Doctor off the hinge. I was worried about bending down to get something to tap off the tool and have someone on the other side of the door push open the door and do a major adjustment of the hinge. I kept my foot against the door to hold it shut. It took some effort but I knocked it loose.

Photograph 10, was taken a bit closer to the door than the earlier one (before the adjustment). So the gap appears to be bigger after the adjustment than it was before the tool was used. It is just an optical illusion. Look at the pencil mark and you can see that the door was lifted slightly higher.

The total shift was only about 1/8", but it was enough to stop the door from dragging and allowed the door closer to shut it all the way unassisted. I marked a few other spots along the frame to see the total shift. *Photograph 11*, shows the top right corner of the door (hinge side), and you can see that the door has similarly moved about 1/8" closer to the frame. I also marked the position of the latch at the strike plate, and that shift can be seen in *photograph 12*. The strike plate is actually still more than 1/2" higher off center, but the improper door/frame installation



10. The gap appears to be bigger.

prevented me from making any further adjustments.

I also used the #HA1 tool with another door (not photographed) where the top opening edge of the door was scraping against the frame. After a few quick adjustments of the top hinge, the door was closing smoothly. I found the tool to be quite effective and worthwhile addition to the tool collection of locksmiths who have otherwise shied away from door servicing. I imagine that it would also be smart tool for locksmiths that do full door service. I'm sure there are minor adjust-



11. The door has similarly moved about 1/8" closer.

ments that the Hinge Doctor can do in just a few minutes that might otherwise be taking the same locksmith up to half an hour or more when hinge removal is done.

Personally, I think of the tool as more of a "Hinge Chiropractor" than a "Hinge Doctor." You will probably want to avoid damaged hinges, because this will not heal or repair them. It works great on re-bending hinges that have bent the wrong direction because of gravity and general wear and tear. Don't use the Hinge Doctor on cast hinges, and think twice before using it on wooden doors or frames. It could pull the screws out from the force. It is meant for commercial metal doors

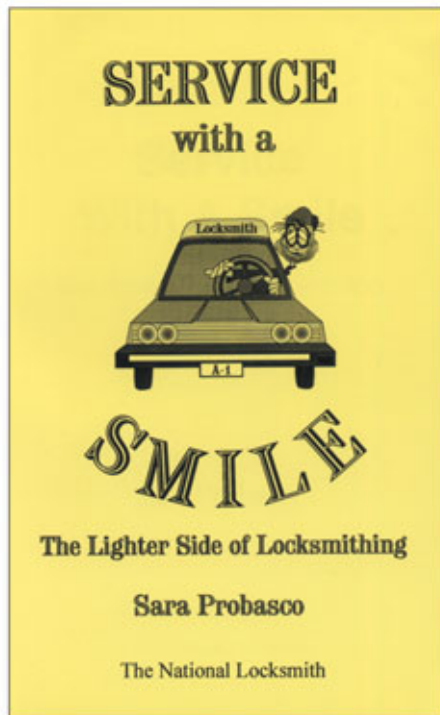


12. I also marked the position of the latch at the strike plate.

and frames. Other than a few limitations, this tool looks like a real moneymaker.

For additional information, contact: GKL Products, (a division of Gold Key & Lock, Inc.), 3404 Collin Court, Fremont, CA 94536. Phone: 510/791-0424. Toll Free: 800/924-5397. FAX: 510/791-7266. E-mail: sgoldst@home.com. Circle 278 on Rapid Reply.

Look for any updates or corrections of my technical articles at my web page, <http://home.earthlink.net/~lockwriter>. Look under the link at "Tech Article Addendum". **TNL**



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Knurled & Flattened

by Tom Lynch

We have all heard the saying “Don’t fix it, if it isn’t broken.” Some of you may have heard another phrase similar to this, “The wheel was made thousands of years ago, it works, so leave it alone.” These are catchy little phrase that often speaks volumes about the people that use them. We all like to coast along without too much change, and we all like to have some form of consistency. However, there often comes a time where a little shift or development can make things more efficient, a bit better, a bit faster.

Many of the products and services we use in the locksmith industry are staple items that have been around for a long time, and have performed well. Many of these products, tools and services have yielded some good cash flow. Locksmiths are always taking these products and tools that we use, and they examine them with the utmost care to find a flaw, or a better way.

Very often some very innovative developments occur.

So why then, would we accept subtle changes, or even major changes? Because these slight changes create greater performance opportunities, which trickles down to many benefits including profits. Recently, PRO-LOK of Orange, California released a new, or lets say a “tweaked” version of the age old bent wire car opening tools. Just when you thought there just couldn’t be anything new in auto entry, PRO-LOK came up with the new Xacto-Grip (see *photograph 1*).

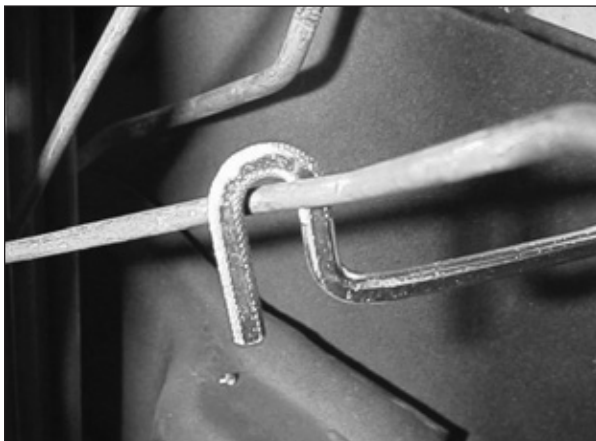
PRO-LOK is a leading manufacturer of auto entry tools with 25 years of working experience. This benefit allows PRO-LOK, and companies like them, to consistently see beyond the “stone wheel” and find these new ideas and deliver them.

The Xacto-Grip line boasts a newly machined music wire that

increases the strength and the gripping capability by using a “knurled” cross etching at the tip (see *photograph 2*). This knurled tip eliminates unwanted tool slippage and creates a more positive contact in tight spots. Older style opening tools were susceptible to slipping due to the smooth surface of the linkage and the tool. Some even suggested using “duct tape” to create a more positive contact.

Manufacturers also continue to make auto entry tools as thin as possible to allow entry into the door cavity and work past the tight weather-stripping. This compromise often creates a lack of ability to move the linkages properly due to lack of strength, and could result in a broken or jammed tool.

PRO-LOK has addressed both of these concerns by cutting down a larger music wire flat on two sides, creating a tool that can pass into the door cavities while maintain the



1. The PRO-LOK Xacto-Grip opening tool.



2. This knurled tip eliminates tool slippage.



3. Both sides of the tools have been flattened.



4. The PRO-LOK Xacto-Grip did not yield.

needed strength to move the lock linkage (see photograph 3.) The wire is actually larger than the original wire used by PRO-LOK, but once cut down it shares the same side width.

Upon receipt of this new auto entry set, I was impressed the moment I held on in my hands. I have used every manufacturers tools and have opened many autos. The first thought that went through my mind was the impressive strength and the larger size. I must admit that I took a moment to question, "why"? Like many of you, I have used tools that seemed to collapse under pressure, and they became more of an embarrassment than a money maker.

After taking a closer look I began to appreciate the changes to the girth these tools had. I even laughed a little, because I felt a bit intimidated. That's what happens when we become comfortable with a way of doing things and a standard in

the tools that we use. However, keeping an open mind and staying competitive, a slight smile came to my lips and motivated me to go visit the local car lot and "tweak" my old way of doing things.

After working with these tools I found that they indeed performed better than the older style wire tools. I tried to forcibly move the PRO-LOK A001 while turned on a horizontal rod and just couldn't do it (see photograph 4.) I also fastened a weight to a length of wire stock to perform a vertical lift test to see if any slippage would occur. After numerous attempts the PRO-LOK Xacto-Grip models that did not yield. There is no need to use such force in conducting any auto entry and the purpose of this test was only to demonstrate the effectiveness of this new design.

In the past a company by the name of ABC Lock introduced a set of entry tools known as the "Dog

Tooth" that also had modified tips. These tools were also highly effective for "biting" into the surface of the lock linkages, however their tips where larger welded saw blade types that made entry into tight or closed cavities risky. The Xacto-Grip auto entry tools easily enter into limited space cavities allowing a successful opening without concern of snagging any electronic components.

The PRO-LOK Xacto-Grip Auto entry set offers a new option in auto entry tool performance and has once again made an improvement to the "stone wheel" concept, or possibly the "Dog Tooth". In any case it is refreshing to see that there is still creative thinking in our industry that results in positive benefits.

For more information contact: PRO-LOK, (714) 633-0470; E-mail: mail@pro-lok.com; Web: www.pro-lok.com.



Sieveking Auto Key Guide

The Sieveking Auto Key Guide lists over 2,600 automotive and motorcycle keyways, covering makes from Acura to Zundapp, and listing fourteen popular key manufacturer numbers.

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#AK - 1

Installing

The Quest 1371

from LCN



by Richard Allen Dickey

Have you ever wondered where the door closer came from? How about who invented the door closer? I found the history of the door closer so interesting, I want to share a small portion of it with you before we get into the installation of the 1371 Quest series closer form LCN.

In 1880, Mr. L. C. Norton was employed by the Bishop at the Boston Trinity Church to remedy a condition annoying to the churchman and his congregation. Several swinging doors in the church vestibule would open and close when the wind blew. The noise from the banging doors interrupted the services. In those days the door closer was unheard of. Controlling devices to prevent doors from slamming were unknown. Coil springs and double-swinging hinges were the only makeshifts available to close doors.

Mr. Norton changed the doors to swing one way by installing a rubber lined wood stop on the head casing of the door frame. However, the Bishop was not happy. He said that the continuous thumping of doors on the rubber stop, disturbed him greatly while preaching.

Disgusted that his efforts were not appreciated, Mr. Norton took off his overalls and threw them with his tools into a closet and violently closed the door. To his surprise, it did not slam. He tried it again and found that the quick action of the closing door formed a pocket of air in the closet and prevented the door from slamming.

On the way home he could not forget how the closet door had reacted. That evening he was

determined to solve the problem. He finally decided upon a tube and plunger arrangement. After a search he located an old air pump to which he fitted brackets designed to attach it to the door.

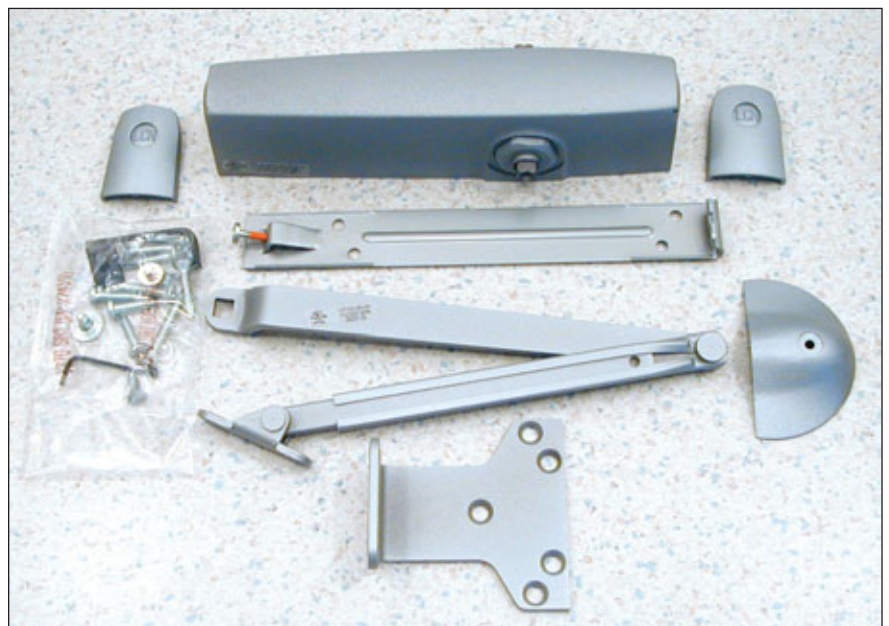
The problem of controlling the speed of the plunger was accomplished by cutting several vents in the tube. These vents allowed the air to escape and the door to close silently. This device was installed and it performed efficiently.

From this simple beginning, Mr. L. C. Norton, using his initials for the company name, founded the first company engaged in the manufacture of Door Closers on June 17, 1881. Since that time his entire life was devoted to the developing and perfecting of door closing devices.

Currently, LCN employs about 400 people. Since 1950, the company has produced a variety of door closers ranging from surface mounted and concealed closers as well as security closers used in prisons and correctional facilities. Currently, the company has over 35 different series of closers and many other door hardware products including pivots and hinge guards.

So now you know how the first door check was invented and a little about LCN. Lets look at how simple the 1371 Quest series closer is to install (*see photograph 1*).

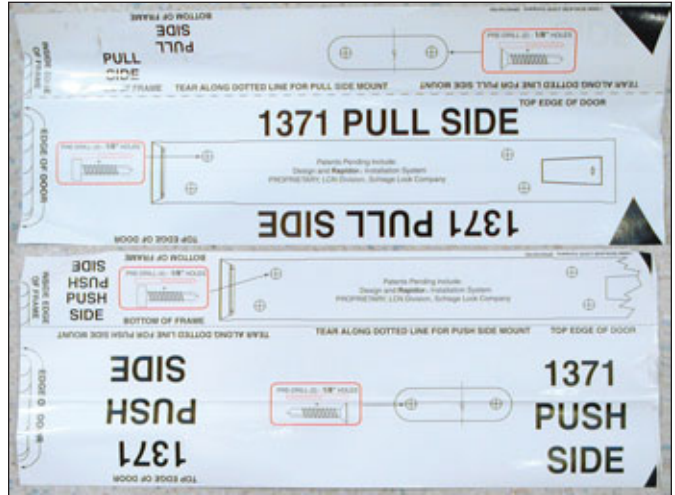
The Quest series is reportedly the quickest door closer to install that is on the market. They say that with just a little practice, a professional installer can mount the Quest in less than 7



1. Everything is included with the Quest 1371 door closer form LCN.



2. There is a handy set of directions that will stick right to the door.



3. The template set will cover pull side, push side, right hand and left-hand swing.

minutes. The question is, can I do it?

There are three steps to the installation process.

1. Apply the “peel and stick” template to the door and frame.
2. Mount the unique, patented Rapidor® bracket.
3. Install the closer and arm assembly.

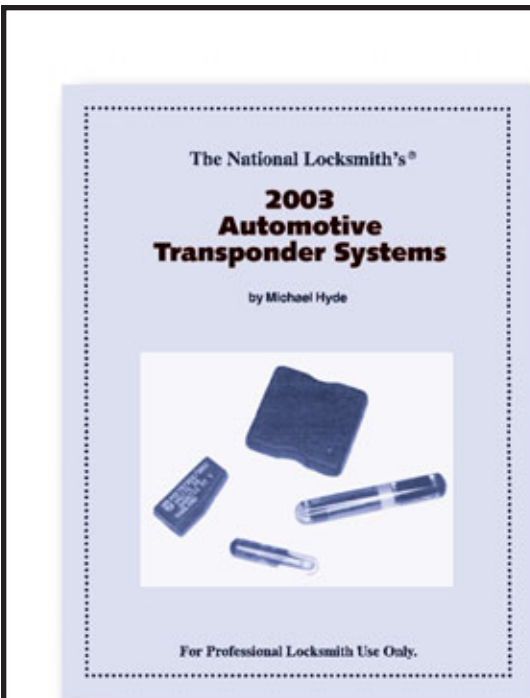
An additional step I took was to attach the instructions to the door. LCN already had this one worked out.

The back of the direction sheet has a peel and stick strip at the top. You can peel it and stick it to the door while you are working (see photograph 2). When finished, you can peel it off and throw it away.

Speaking of peel and stick, there are two templates that are designed to stick to the door (see photograph 3). One is for the arm and the other for the closer. The template set has

two options. One option is for a pull side mount or a push side mount. The other option is for right and left-hand swing. You are covered all the way around. You just pick a template, align it as indicated and stick it to the door.

All six holes used for mounting, can be perfectly located with these two templates (see photograph 4). At this point you can either center punch the locations for the six holes, or just

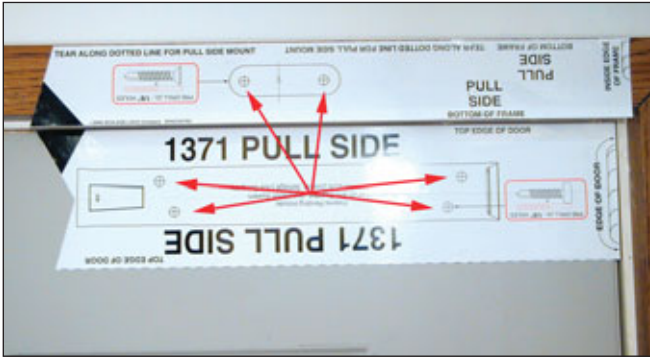


2003 Automotive Transponder Systems

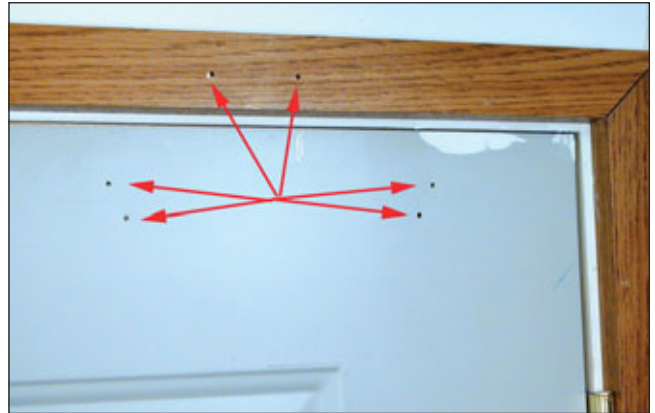
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4. The peel and stick adhesive on the template works great.



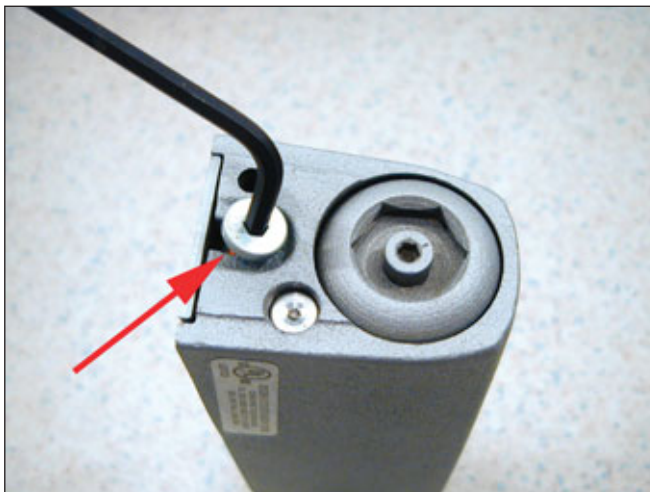
5. All six holes are perfectly pre drilled by using the locations on the template.



6. You don't need to hold the bracket in place, there is a piece of double-sided tape that does this for you.



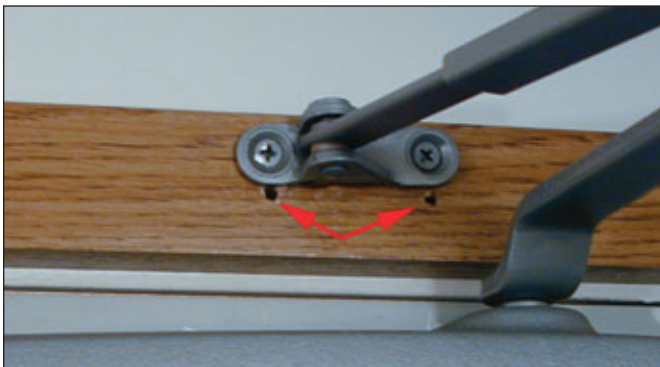
7. For metal doors, self-tapping screws are provided.



8. The door closer slides into the bracket and one retainer screw locks everything in place.



9. With the door closer mounted it is time to move on to the arm assembly.



10. There was no wood behind the molding at the specified location. Simply raising the arm assembly a half-inch corrected the problem.

jump right in with an 1/8" bit to pre-drill the holes. The closer comes standard with self-tapping screws for a hollow metal door. Wood screws are available upon request. Pre-drilling is recommended for installation on both wood and metal doors.

With the holes pre-drilled, the mounting bracket can be attached to the door (see photograph 5). One nice feature of the mounting bracket is the addition of a piece of double-sided tape on the back. The idea is that the tape will hold the bracket in place while it is permanently attached to the door (see photograph 6). With the bracket in place, secure with the self-tapping, number three (not number two) Phillips head screws (see photograph 7). Sounds simple, but has anyone else thought of it?

The closer is slipped onto the mounting bracket and held in place with a retainer screw (see photograph 8). At this point I am only about three minutes into the installation (see photograph 9). It has been very simple so far. Note, I said so far.

The next step is to install the arm assembly onto the door frame using the two holes that I pre drilled only a moment ago. Does anyone see a potential problem at this point? I didn't, until I started to enlarge the pre drilled holes for my wood screws. The problem is there wasn't any wood to pre drill. Only the molding was there. You would never run into this problem with a metal door frame, however I discovered a gap between the wooden door frame and the wood that surrounds the frame.

I have had this same problem in the past and you would think I would learn from experience, but I don't! I just keep on poking holes where they don't belong. The template location was the ideal place for the arm of the door closer. However, it was not the proper location for my door. No big deal, this is an easy problem to fix by just raising the mounting location for the arm by about a half of an inch. I also angled the wood screws slightly upward to ensure they would not bust out when I drove them home.

If I had thought, I would have made only one 1/8" hole for the arm assembly and probed it with a wire to see if there was anything behind the molding. The bad news is that I have two extra holes in the molding that I have to fill (see photograph 10). The good news is that the arm assembly has enough tolerance that raising it a

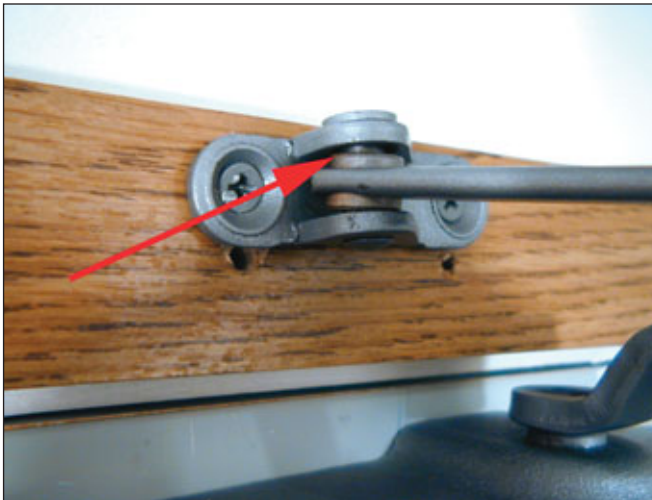
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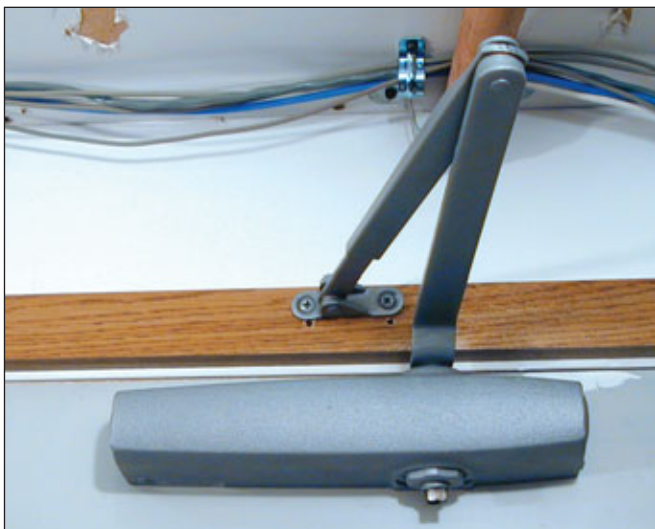
#TIPS - 2



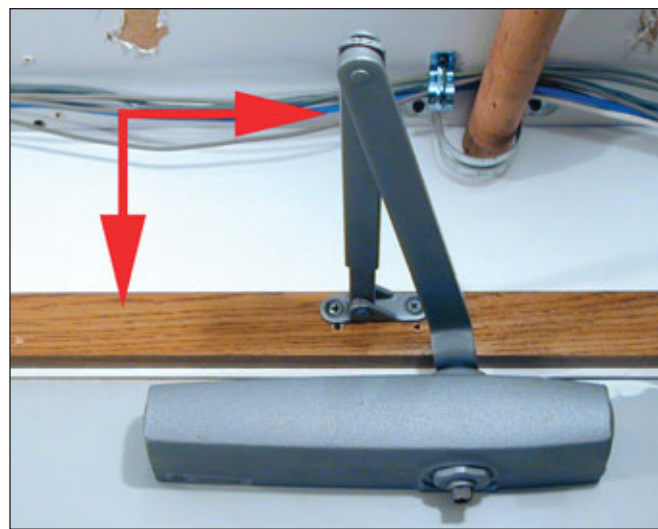
11. Relocating the mounting position for the arm will not cause any binding.



12. Another point in the arm assembly that has a lot of tolerance.



13. The arm in a relaxed position when it is first installed.



14. Here is the proper position for pre loading.

half-inch will not cause any binding (see photographs 11). The fact is, the arm mounting position can be raised well over an inch and still not bind (see photograph 12).

After the arm assembly is attached to the door closer and the door frame, it has to be pre-loaded. Pre-loading is just putting a little tension on the system to be sure it doesn't run out of "umph" before the door is fully closed.

Photograph 13, shows the position of the arm before pre-loading. At this point the adjustment screw has not been tightened on the arm assembly. By grabbing the arm and pulling it so the portion of the arm that is mounted to the door frame is at a 90 degree angle to the door frame, this will be the perfect amount of pre-loading (see photograph 14). Tighten the locking screw on the arm assembly and the job is almost

complete (see photograph 15).

Even with my mistake, I only have around ten minutes into the installation so far. Now it is time to make any necessary adjustments to the closer. There are four adjustments that can be made. There is the:

1. Spring power.
2. Backcheck.
3. Main speed.
4. Latch speed.

There are two things to remember about a door closer. The spring is power and the hydraulics is your control. The spring on the 1371 is adjustable from a #1 setting to a #5 setting. There is an Allen head adjustment that is turned counter clockwise to weaken or clockwise to strengthen the spring power (see photograph 16).

On the same end of the closer is the backcheck adjustment (see

photograph 17). The backcheck has no affect on the door until it gets close to its wide open point. The idea with the backcheck is to slow the opening of the door before it reaches its wide open position.

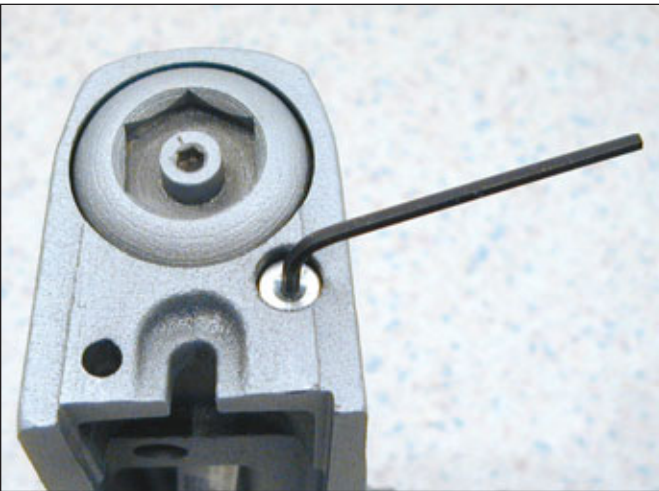
Why? Well, it is very similar to a screen door chain. I am sure you have all seen the chains used on screen doors that have a heavy spring at the end of them. The spring acts like a little shock absorber. When a screen door reaches the end of its chain after being blown from your hand when opened, there is a lot less stress placed on all of the door components if there is a cushion at the end instead of a sudden stop. Remember, its not the fall that hurts, it's the sudden stop at the bottom. The backcheck acts like a cushion or shock absorber to reduce the amount of stress placed on the door components when the door is abused.



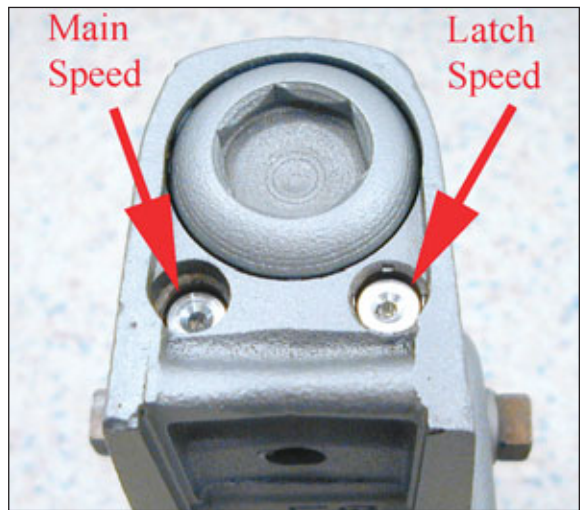
15. After properly positioning the arm, tighten the locking screw.



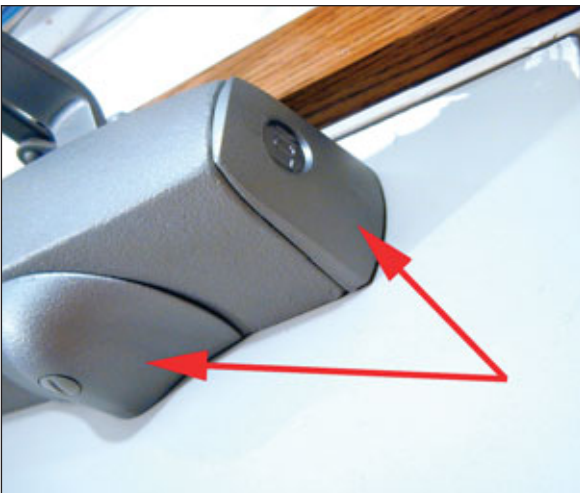
16. The spring can be adjusted from a #1 to a #5 power.



17. The backcheck adjustment is on the same end as the spring adjustment.



18. The adjustments for the main speed and latch speed are on the opposite end of the closer.



19. Snap the end cover in place and attach the bottom cover and the job is finished.

The two speed adjustments on the other end of the closer are for the main speed during closing and the latch speed during closing (*see photograph 18*). A good average for closing time is 5 to 7 seconds from a 90-degree open position until closed.

Both the latch speed and main speed are adjusted with an Allen wrench. By turning clockwise, you will slow the closing process and by turning counter clockwise you will speed up the closing process.

After any needed adjustments are made, all that is left is to snap on the end covers and attach the bottom cover (*see photograph 19*). My installation time was right at 15-minutes. This was my first time with this model from LCN. I would bet that my next install will easily be under 10 minutes. Except for my oversight with the wooden frame, everything went very smoothly.

If you have ever wondered what the inside of a door closer looks like, be sure to read "Inside the Quest 1371" next month. When I finish with this thing, its own mother won't recognize it! Until then, enjoy life. You only get one!

For more information about the Quest series or any other closers from LCN, contact: LCN Division Ingersoll-Rand Company P.O. Box 100 Princeton, IL 61356-0100. Phone: 800/526-2400; Fax: 800/248-1460. In Canada contact: Ingersoll-Rand Architectural Hardware 1076 Lakeshore Rd. East Mississauga, Ontario L5E-1E4. Phone: 905/278-6128; Fax: 905/278-1413. For those on the Internet go to www.lcnclosers.com.



MULTIMETERS

An
In-Depth
Overview

PART 1

by Richard Allen Dickey

A multimeter is nothing more than a tool. It is no more valuable than a pair of wire pliers or a screwdriver. Like the screwdriver, the multimeter has its purpose. There are rules to follow and things you should not do with it. If you learn to use a multimeter and understand what it tells you, electricity will be a much simpler thing to deal with. Once you understand electricity, it will become your friend.

Why do they call it a multimeter? Well, because it does multiple things. They do make individual meters that only do one thing. The Volt meter or current meter in the dash of a car are two examples of a meter that does only one thing. A multimeter will have a switch that allows you to change from one type of reading to another. (See photograph 1.)

The Multimeter

Most modern multimeters have settings for at least four different types of readings. The first and most common is Direct Current Voltage

or DCV for short. (See photograph 2.) Almost as common is Alternating Current Voltage "ACV". (See photograph 3.) The next most common type of reading that people use a multimeter for is to measure resistance. (See photograph 4.) You will usually see a symbol like this "Ω" instead of the word "resistance" or "ohm" on the multimeter. The least used is the Direct Current Amps "DCA" setting. It may also be listed as DCmA for direct current milliamperes. (See photograph 5.) I have also noticed over the years that it is also the most misunderstood of the different types of measurements that can be tested with a multimeter. Don't worry, I am going to make this real easy to understand.

There are a variety of multimeters that will do a whole lot more as far as testing is concerned. Some will test capacitance, audio levels, frequency, transistors and a whole lot more. I think it is safe to say that 99.9% of the measurements taken by 99.9% of the users, is limited to the list of the four most common things above.



1. Here are three typical multimeters.



2. There are four typical functions found on almost all multimeters. The most common is DC volts.



3. Next there is the AC volt function.



4. The third most common function is for measuring resistance.



5. The fourth and most misunderstood is current measurement.



6. Here is a standard, four function analogue multimeter.

Analogue vs Digital

Now that you know that all you need is a basic multimeter, the choice is to either purchase an analogue multimeter (see photograph 6) or the newer digital model? (See photograph 7.) Yes, there are two kinds and they both work very well.

The digital is better at some things and is the easiest to read and understand. However, there are times when an analogue multimeter works much better. To understand this last statement, you have to be in an unusual situation. I will explain a couple of those situations a little later. First, let's look at an inexpensive digital multimeter.

The digital models have become most popular over the years because they are easier to read. If you are looking for a very small difference between two readings, the digital is the way to go.



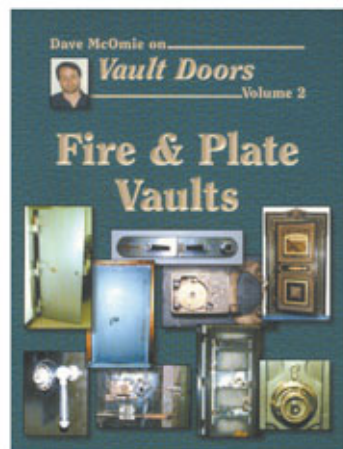
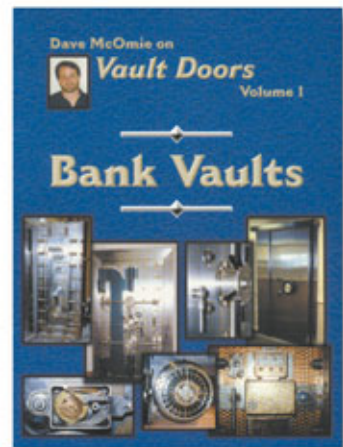
7. This is a digital multimeter.

All multimeters will have several things in common. There is a display that shows the value of whatever it is that you are reading. (See photograph 8.) There will also be a switch to select different functions. (See photograph 9.) Last but not least, there are two long wires called test leads that connect the multimeter to what you are testing. (See photograph 10.)

DCV Testing

One of the simplest tests you can make is the DCV test. On this digital multimeter there are several positions called ranges that can be selected in the DCV area. (See photograph 11.) The 20, 200 and 1000 are rather obvious. They are to set the multimeter to read 20 volts

Dave McOmie on Vault Doors Vol. 1 & 2



These openings can be a nightmare, but not when you bring Dave McOmie along with you on the job.

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DC or less, 200 Volts DC or less and 1000 volts DC or less respectively. Can you guess what the 2000m is for.

Well, the “m” is the abbreviation for “milli” which means thousandths. It takes 1000 milli whatever to equal 1. So what does 2000m equal? That’s right, it equals 2. Since we are in the DCV section of the multimeter, 2000m would be equal to 2 volts DC. Not so hard after all is it?

Just to test your understanding of the milli thing, what does the 200m stand for? 200 thousandths of 1 is equal to “.2”. Does that mean this setting is to read .2 volts DC or less? Yes it does.

What to Choose?

Now the next question is, how do you know which setting to use? This is an easy one. If you are testing a circuit that is supposed to be 12 volts DC, a good selection would be to set the switch on the 20. Remember, 20 is for 20 volts DC or less. 12 is less than 20 so 20 would be the perfect setting.

How about if you were trying to read the voltage of a AA battery? A good battery will read about 1.5 volts DC. Would the 20 setting be OK? If

2000m is for 2 volts DC or less, would it be a better choice?

Photograph 12, shows a reading of 1.56 volts DC on the 20 scale. There



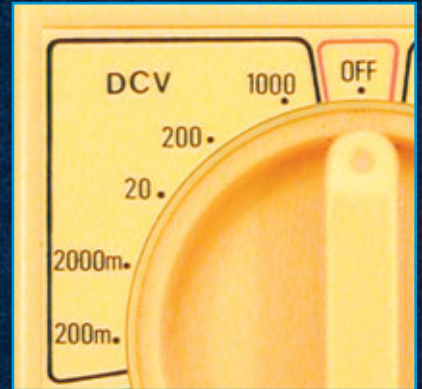
8. The digital display is very easy to read.



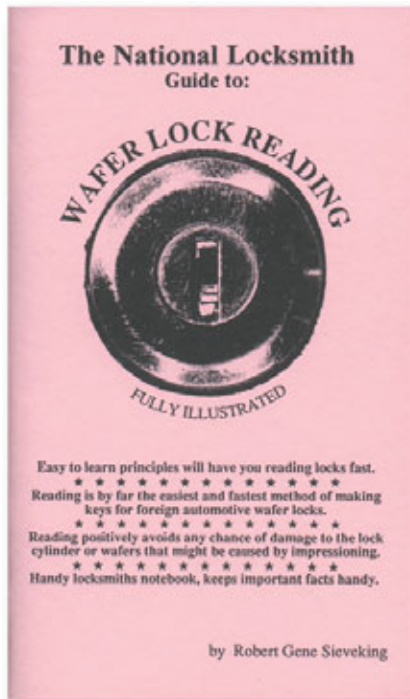
10. A multi-meter would not be complete with a set of test leads.



9. The selector switch is used to select which function you want to work with.



11. Several scales are available in the DC volt function.



Wafer Lock Reading

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#WLR - 1

is no doubt that the AA battery is good, but what would it read if we used the 2000m setting.

Photograph 13, shows a reading of 1571 when the meter is set on the 2000m scale. Remember, we are looking at millivolts, not volts. We know that 2000 millivolts is equal to 2 volts so what would 1571 millivolts be equal to? It equals 1.571 volts DC.

The next question is why did one scale read 1.56 volts DC and the other 1.57 volts DC. It is just one of those things. The calibration inside the multimeter is set with electronic components for each specific scale that the multimeter has to offer. This is why you can get a small difference when using different scales. The difference between 1.56 and 1.57 is one hundredth of a volt. The difference between the two readings is not worth mentioning or being concerned about. As a rule of thumb, if you have to choose between two scales, choose the scale that is closer to the actual value that you are trying to measure. A battery that is supposed to have a voltage of 1.5 volts is much closer to the 2000m (2 volts DC) than it is to the 20 volts DC scale.

What if you don't know what the voltage is supposed to be? Well, that does happen a lot and there is a very safe and easy to follow rule. If in doubt, set the multimeter to the highest setting available to do your test. It is very likely that if you set the meter to the 1000 volt DC scale and you are trying to read something that is less than a volt, the multimeter may read "0" when there is actually something there. That is why if you get a "0" reading, you should remove the test leads from whatever you are testing, select the next lower scale and test again. Continue to do this until you are satisfied that there truly is nothing there to measure.

AC Voltage Testing

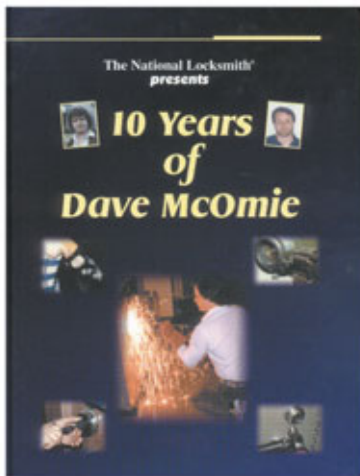
Testing for AC voltage is basically the same as the previous test for DCV. Because of the difference in the two types of voltage, the internal parts of the multimeter are set up differently. In this case the multimeter only has two ranges available for ACV. (See *photograph 14*.) They are the 750 and 200 which are for 750 volts AC or less and 200 volts AC or less.



12. Reading a AA battery while in the 20 DCV scale.

However, the steps taken by the user are the same for both types of voltage. Just be sure to select the right function (ACV or DCV) or the reading you get will be wrong.

10 Years of Dave McOmie

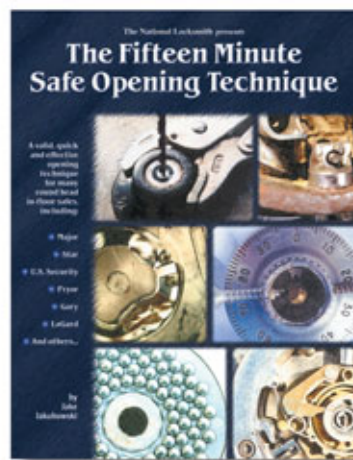


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13. The same AA battery when read from the 2000m (2 DCV) scale.

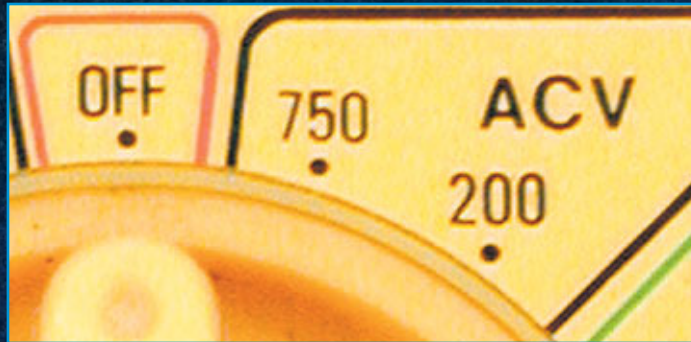
Measuring Resistance

Now we can step into the world of measuring resistance with a multimeter. Although it is very hard to damage a multimeter when measuring voltage, you may actually see smoke roll up from the multimeter if you do not follow the proper steps when testing resistance.

Resistance is a common test used anytime wire is involved. The resistance of a coil of wire inside an electrified door strike, the coil of wire inside an electromagnet or simply the wire used to install one of these items, is an important factor in determining if something is good or bad.

Too little resistance is just as bad as too much resistance. A typical coil of wire inside an electromagnet will read in the area of 50 to 60 ohms of resistance. If you had a resistance reading of 12 ohms, this would indicate that some of the coils of wire inside are shorted (touching) together. If you had a resistance of 10,000 ohms it would be a sure bet that there is an open (broken wire) somewhere in the coil of wire.

One of the keys to knowing if something is good or bad is to know what it is supposed to read when it is known to be good. The resistance of a coil of wire inside an electrified strike can be found several ways.



14. On this multimeter, only two scales are available on the AC volt function.

Often the specification sheet will list the resistance. If that is not available, you can test a good one and compare the reading to the suspected bad one. If you do not have a good one, you can get the information from the manufacturer. If it is 9:30 on a Saturday night, you can take an educated guess. You will be surprised how easy it is to guess correctly with a little experience under your belt.

Testing resistance is usually easy to do, but I did mention smoke earlier. Pay attention! Resistance is only to be measured on a circuit (wire, coil etc.) that does NOT have electricity on it when doing the test. Why?

Resistance is a test that measures how easily current will flow (travel) through wires, coils and other things. If current will flow easily it is said that there is a very low resistance. If current will not flow easily it is said to have a high resistance. To test how easily current will flow, you have to add a little current to the circuit.

If a circuit that is to be tested already has voltage applied, (lets say that the battery is still connected) the multimeter when set in the resistance mode will act like a wire with a very low resistance. When the test leads are touched to the circuit, any current already available on the circuit will pass through the multimeter.

A very small amount of current is used to test resistance. The chances are very good that the circuit will provide much more current than the multimeter can handle. This is where the smoke theory comes into play.

It is said that all electronic components come from the factory with smoke inside them. If you let the smoke out, they quit working.

The smoke theory is not really true, but it sounds good, and I promise you that if you see smoke, it is already to late. Your multimeter is toast.

So how do you know if the circuit is ready to test for resistance or if it still has voltage on it from somewhere you did not think of, like a battery backup system? You should do a voltage test first.

Remember that it is hard to hurt a multimeter when measuring voltage. Especially if you start on a very high scale when doing the test. If you are not positive that the circuit is dead (no voltage applied) always test it for voltage before you do any other test.

If you have any doubts about what I am telling you, just take your favorite multimeter, set it to read resistance and touch the test leads to the positive and negative terminals of your car battery. One of two things will happen. You can make up your own mind about the smoke theory, because there will be plenty of smoke to go around, or if you have a good multimeter, it will have a fuse for protection and it will blow to save the multimeter.

The reason I am stressing the smoke thing so much is because it is a common mistake that people make. If you are in the resistance testing mode and decide to make a quick voltage test, what do you think will happen when you forget to switch the multimeter from the resistance function to the voltage function. That's right, you will quickly find out if you have a good multimeter with a fuse or just one filled with smoke.

Now that you know what not to do when testing for resistance, what should you do? That is a good topic for next month. Until then, go to the store and but a cheap multimeter. You won't regret it. **TNL**

Beginner's Corner

By
Jeffery M.
Trepanier

Key Blanks

What would a locksmith be without a wall of key blanks? Not much of a locksmith! If there is one single product that is immediately identifiable with a locksmith, it is the key blank, and there are an awful lot to choose from. As a beginning locksmith, how do you know where to start and what to choose? It may be just a simple key blank, but there are a number of factors to consider when deciding on what to stock.

There are different manufacturers of key blanks and you can choose between original manufacturer or OEM (when available) or after market offerings. Some of the domestic after market manufacturers are: Kaba Ilco, Jet, Curtis, ESP, Kustom Key, and Strattec.

To start at the beginning, let's start with the key blank components. There are four primary components

to a key blank (see illustration A).

1. The Bow or head of the key.
2. The shoulder stop or tip stop.
3. The blade.
4. The milling profile.

The bow of the key will usually have some form of identification, be it a number, letter or the overall shape of the bow.

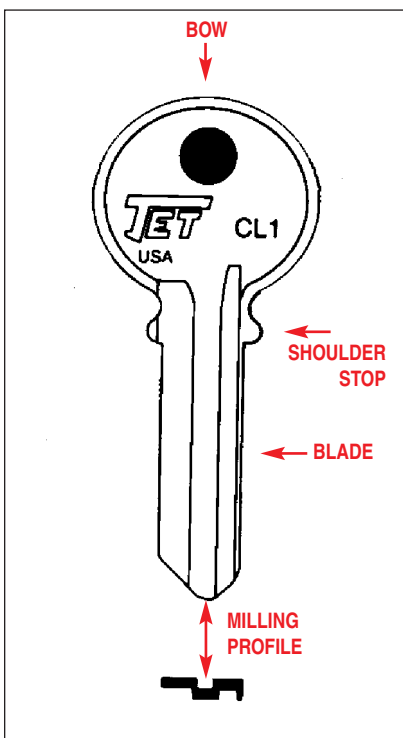
Most key blanks will also have some type of stop that limits the blanks travel and aligns the key blank within the lock plug. This can be in the form of a single shoulder stop (see illustration B), a double shoulder stop (see illustration C) or a tip stop (see illustration D).

A single sided blade has a top surface, a bottom surface and a milling profile (see illustration E). A double sided blade has two top surfaces that both interact with the locks pins or wafers on either side of the plug (see illustration F). The length of the blade is usually gauged

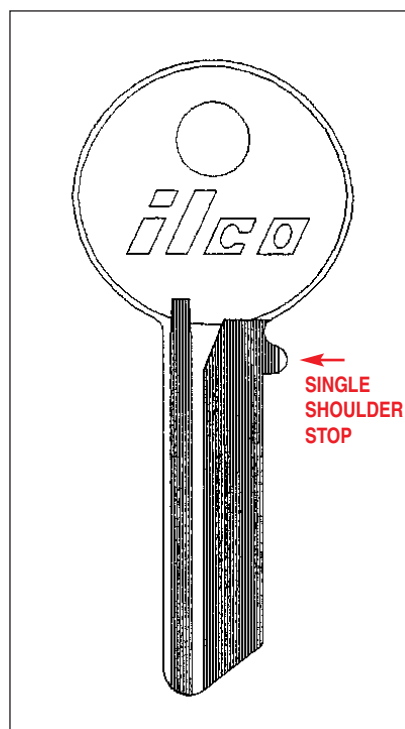
as pin or wafer lengths. In most instances, blade lengths are available in a minimum of 3 pin or wafer to 7 pin or wafer lengths (see illustration G1. and G2.)

The milling refers to the shape of the blade. The shaded areas are milled and the milling profiles are usually shown in actual size (see illustration H). The correct key milling profile will match its corresponding lock plug broaching perfectly, allowing easy insertion and operation.

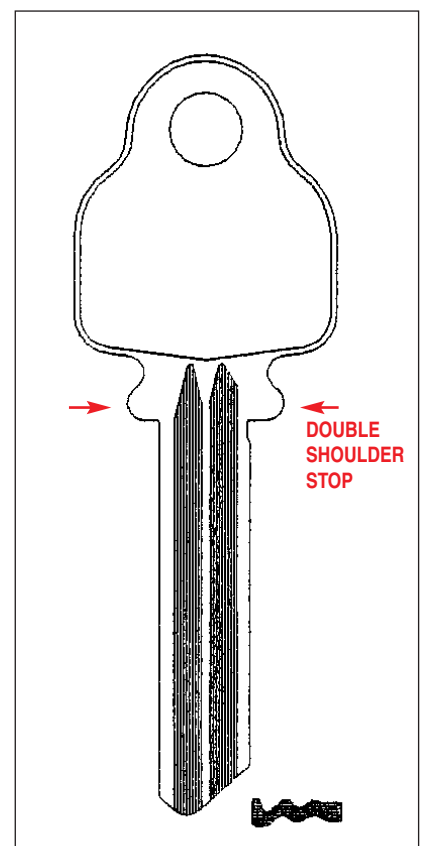
Now lets look at ways to identify key blanks. In most cases there is some kind of identifying mark on the key (see illustration I). Most manufacturers, such as Kaba Ilco for example, will stamp a blank number on the bow of the key (such as 1010N), and an EZ number (such as



A. There are four primary components to a key blank.



B. A single shoulder stop.



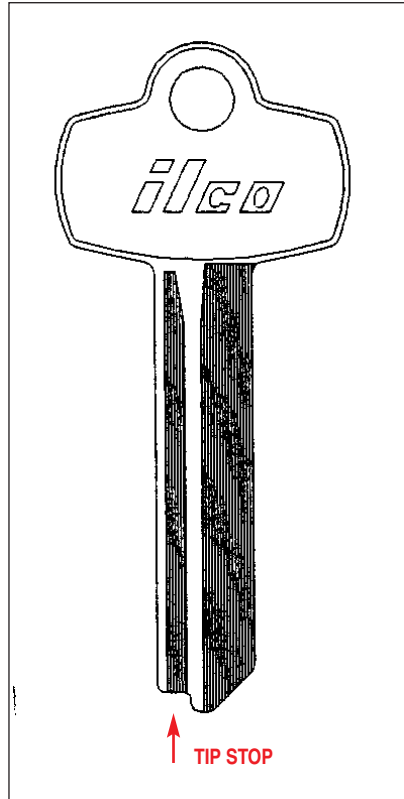
C. A double shoulder stop.

S68) and sometimes there will also be a milling designation stamped on the bow or blade of the key (such as "A" "C" "E" etc.). Most key blanks are blank on one side for use as customer identification, if so desired. While some keys blanks will offer little or no markings at all.

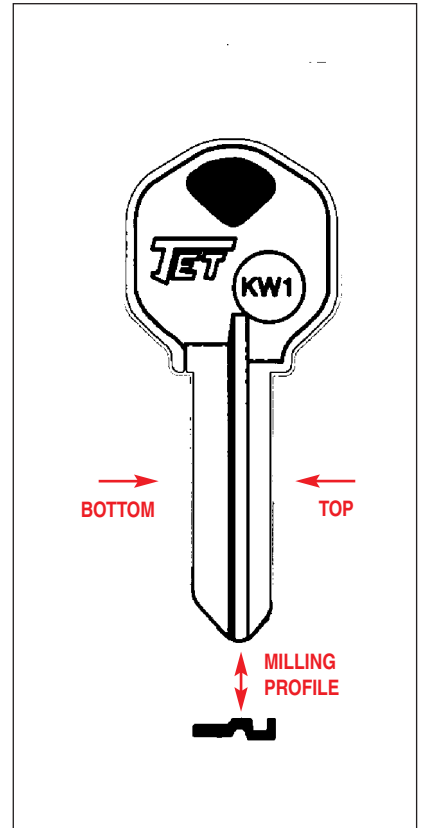
Photograph 1, shows four of the same key blanks, by three different manufacturers. The key in the upper left-hand corner is a brass key, marked with only the letter "C". The blank to the right is a brass key by Curtis, identified by SC1. The key in the lower left-hand corner is a brass key from Jet and is marked SC1, the other side has no markings. The key in the lower right hand corner is nickel-plated brass and is only identified by the letter "C". All four of these keys are 5 pin keys.

The SC1 identifies these blanks as a "S" chlage blank with a "C" keyway and "1" denotes a 5-pin blade (see *photograph 2*). The Jet blank is on the left and the Curtis blank on the right.

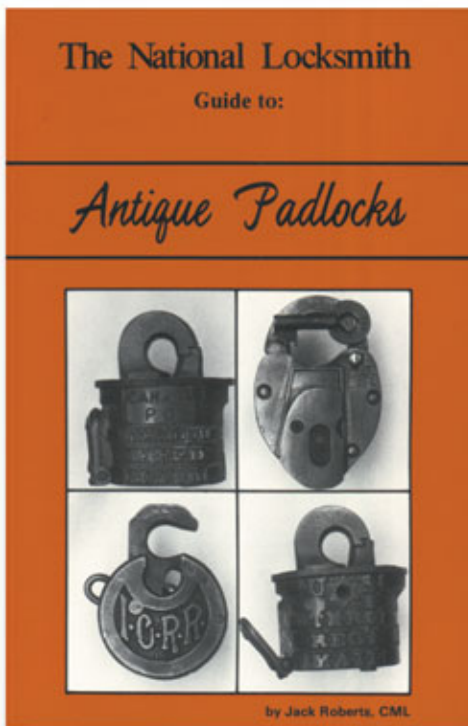
Photograph 3, shows a Jet key to the left and a Schlage original key blank to the right. Both of these keys are six pin keys. The only markings



D. A tip stop.



E. A single sided blade.

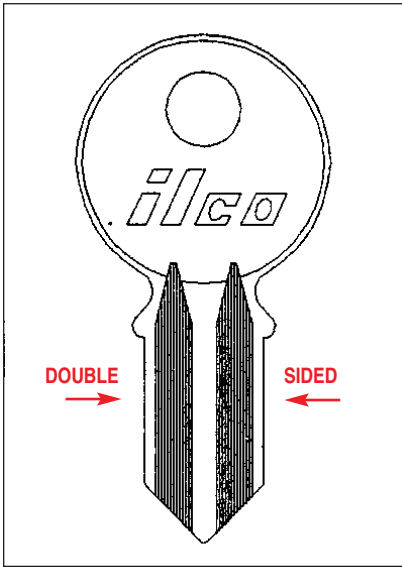


Antique Padlocks

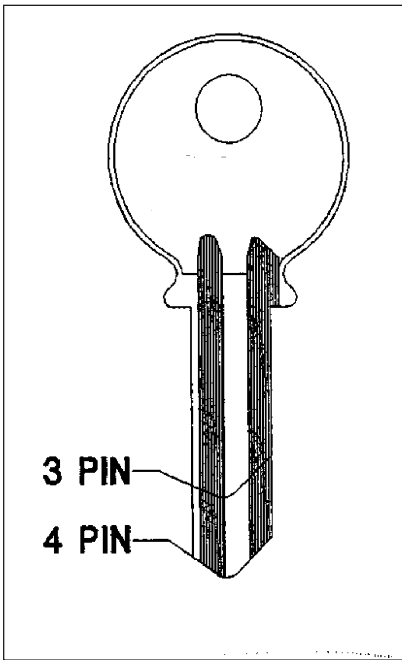
Finally there is a book to give you all the information you need about old interesting locks.

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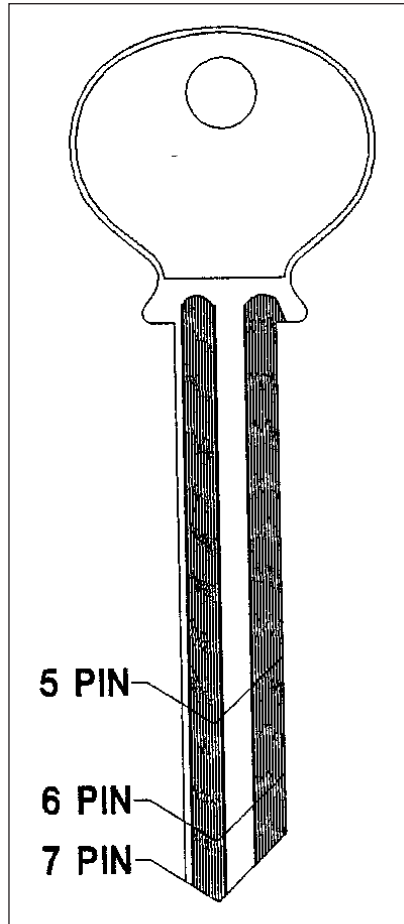




F. A double sided blade.



G1. Available in 3 to 7 pin lengths.



G2. Available in 3 to 7 pin lengths.

on the Jet key blank is SC4, which designates it as a "S"chlage, "C" keyway and the "4" denotes a 6-pin blade. I never said the markings always made sense.

The Schlage key has "Schlage" stamped on it and the letter "C" stamped on the opposite side. Use caution not to confuse the five-pin Schlage original, with the six pin. Both Schlage key blanks are the same, except for the length of the blade.

The shape of the key head can sometimes be helpful in key blank

SC1247	SC1348	SC1460
147	---	---
SC1248	SC1368	SC1467
---	---	---
SC1345	SC1400	SC1468
---	---	---
SC1347	SC1456	
---	---	

H. The milling profiles.

identification. Knowing the keyway and any associated sectionals are also important. Keys for master key systems and for security purposes, are sometimes cut on Nueter Bow blanks, which have no identifying marks to indicate a manufacturer or keyway. Here is a LSDA Nueter Bow blank to the left and Kaba Ilco Nueter Bow blank to the right (see photograph 4).

You can also get familiar bowed key blanks with larger than normal heads (see illustration J). These can be used for easier key identification and are user friendly for senior citizens or the physically challenged. Need a Schlage house key? Offer your customers one of these house keys from Lucky Line, available in different colors (see photograph 5).

For the sheek and the groovy, Jet Hardware offers their "Groovy Key" collection (see photograph 6). These keys have various prints on the

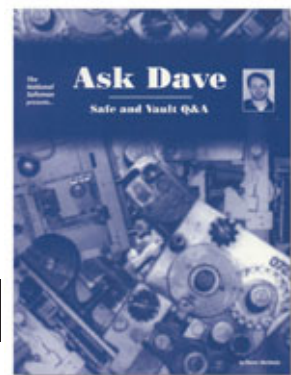
Continued on page 74

Ask Dave

You asked. He answered. This is safe and vault Q&A with an attitude.

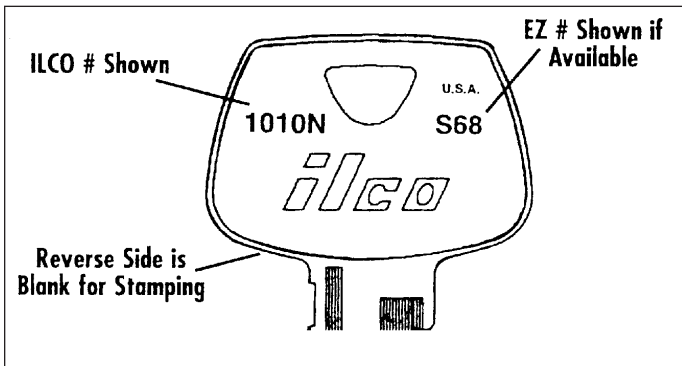


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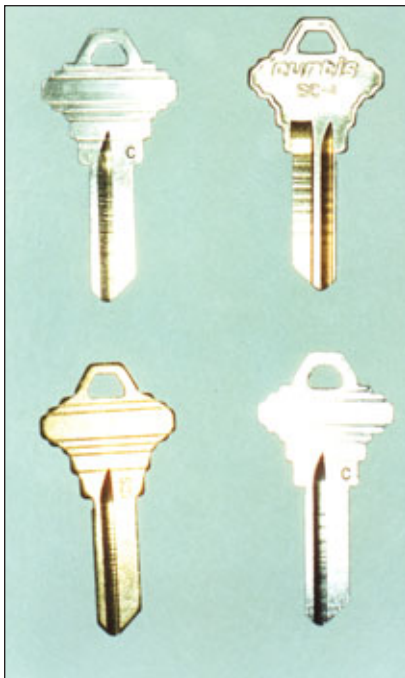


#AD - 1

Continued from page 72



I. There is some kind of identifying mark.



1. Four key blanks, by three different manufacturers.



2. The SC1 identifies these blanks.



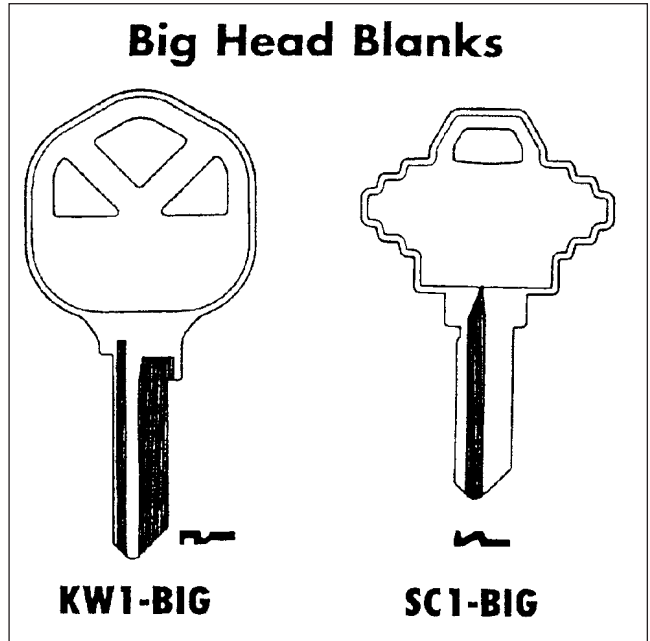
3. A Jet key to the left and a Schlage original.



4. A LSDA Nueter Bow blank.



5. House keys from Lucky Line.



J. Familiar bowed key blanks with larger than normal heads

blank, such as: Lily, Paisley, Blue Floral, Floral Burst, Jungle Cat, Old Glory, Zebra, Rainbow, Camouflage, Valentine, and Holly. These blanks are available in Kwikset KW1, Master M1, Weiser WR5, and Schlage SC1 millings. They are a great option for key identification and expression of individuality. Most who see them just have to have one.

A similar alternative offering is from Kaba Ilco. Its new "Personal-Keys," are available in ten different patterns and four of the hottest selling keyways: Kwikset KW1, Titan KW10, Schlage SC1 and Weiser WR5, (see photograph 7).

In the future Kaba Ilco plans to release a new key assortment. The number for this key assortment is 393-00-8X. This assortment has a total of 1,190 metal head keys, for the automotive category and selected residential keys. You get ten each of the popular vehicle models, from the year 1980 to 2002, plus the popular gas cap key. Not included in this automotive assortment is VATS or Transponder keys. For the residential assortment, you get twenty each of the KW1, KW10 and SC1 and ten each of the AR1, DE6, EZ1, IN8, M1, NA14, WR3, WR5 and Y1. This seems like an ideal starter kit, especially for someone wanting to get into the automotive market. This key assortment will fit on Kaba Ilco's single tier key tower or the 120K-BB. The suggested dealer



6. Jet Hardware offers their "Groovy Key" collection.

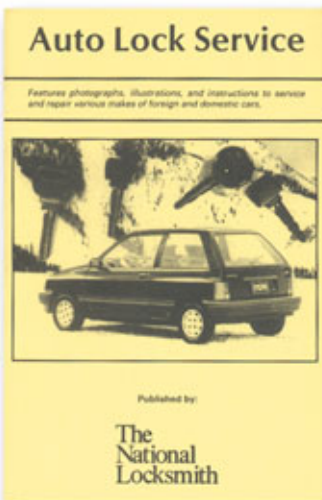
price for this key assortment is \$419.00. Your area may dictate a more popular key blank or two.

Now that we have looked at some of the types, colors and patterns of keys, lets talk about purchasing keys. You can find a distributor by looking in a trade magazine directory or check with your local locksmith organization to see who they buy from. You will also find it worth your while to shop around for the best price and any special offers. For example: IDN H Hoffman offers a 2% fax discount if you fax your order in the a.m. and a 1% fax discount for a p.m. order. You also get a 2% discount if you pay your bill on or before a certain date. To qualify you need to have established a customer account. For more information call: (708) 456-9600, (800) 323-1918, Fax: (708) 456-0878.

Allied Locksmith Supply in Ohio offers a 2% discount if the bill is paid before the deadline. For more information call: (800) 544-2102, Fax: (330) 726-0865.

These are just two of the many distributors out there. Everyone wants your business, so take the time to choose wisely. When you finally decide to buy your key blanks, check for quantity discounts. Keys are normally sold in quantities of tens and fifties; some specialty keys are sold in each quantity.

Auto Lock Service

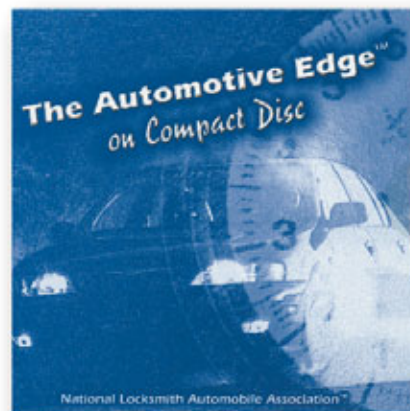


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#ALS - 1

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#AE - CD



7. The Kaba Ilco Personali-Keys.



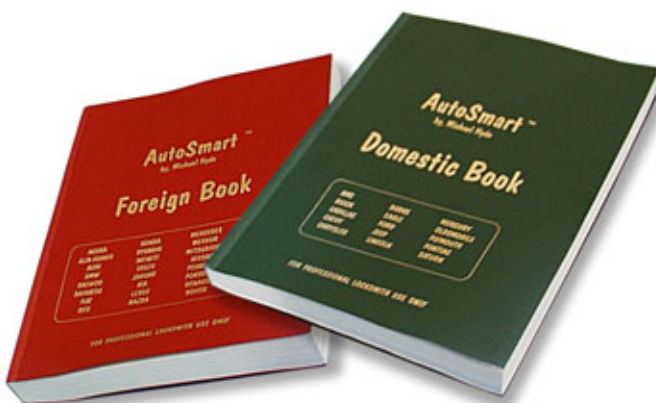
You start to save money on 250 packs. Even more money can be saved on 500 and 1,000 key quantities. Check to see if you can mix and match your large key orders.

Some distributors offer free display boards with key purchases, although these can be limited promotion offers. So if you have the time, check for the best deal and good service from your wholesale supplier.

One of the most invaluable key blank tools available is the key blank directory available from manufacturers. The directory outlines all the manufacturers offerings, most of which will show key blank number, silhouette, milling and profile. Kaba Ilco (800) 334-1381; Jet Hardware (718) 257-0973; Curtis (800) 555-5397; ESP (978) 537-6121; Kustom Key (800) 537-5397; and Strattec (414) 247-3333; all offer such catalogs. I suggest obtaining all of them and adding them to your library of information. You'll be glad you did.

The more you delve into the world of key blank identification and usage, the more there is to learn, and you will soon find that you can never have too many key blanks.

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The Lighter Side

Armed and Dangerous



by Sara Probasco

There I was, cruising along the highway, minding my own business. It was my first day out with my cell phone, and I felt connected to the whole world. Never mind the fact that I wasn't talking to anybody, yet. I knew I could if I wanted to and that was what counted.

Instead of the "ordinary" rigid style phone, I'd selected a little turtleback fold-over model that slips into a holder with a belt clip on the back. Once I'd buckled myself into the driver's seat, the stubby antenna gouging up under my rib cage seemed a bit uncomfortable, but I decided that was better than having it around back, to impale my kidney every time I hit a dip in the road.

I was halfway to San Antonio and thoroughly engrossed in the latest bizarre antics of Dr. Laura's call-in radio audience when the theme from the Lone Ranger cut in as played on a harpsichord:

Di-di-dah, di-di-dah, di-di-dah-dah-dah

Now, the only time I listen to radio talk shows is when driving alone on the highway, so I seldom catch Dr. Laura more than once a month, tops. Even so, I'd noticed strange break music on her program from time to time, but the Lone Ranger's theme? This seemed a bit unusual, even for her, I thought.

Di-di-dah, di-di-dah, di-di-dah-dah, it went again.

"Hey! That's me!" I said aloud. It was my phone ringing.

Reaching for my cell phone, I swerved and ran the right wheels across a "warning" strip on the shoulder, setting up a

nerve wracking, highly audible vibration. While wrestling with my phone, trying to get it out of its holder from beneath my seat belt, I glanced in the rear-view mirror and noticed cars zipping this way and that, attempting to dodge me. So I pulled my emergency blinker button, pulled onto the shoulder and screeched to a stop. I unbuckled my harness, and yanked open my phone, returning the gestures of passing motorists with a friendly wave.

"Mrs. Probasco?" an official sounding voice greeted me from the other end. "This is the central operator with your security alarm system. We have a problem at your house."

"What kind of problem?"

"First, please identify yourself with your personal code number, so I'm sure you're the person I should be talking to about this." The voice said.

Now, the previous week, we had changed security alarm companies on our residential system, and this was the first time I'd had occasion to speak with anybody connected with monitoring. I knew where the code number was written down at home, but that didn't help me now. All I could think of was the old code. I explained the problem.

The operator finally asked enough personal questions, to satisfy her that she had the right person on the line. Then she said, "A man has entered your premises through the garage door and attempted to disarm your alarm system by entering an improper code several times."

I broke out laughing.

"That would be my husband," I said.

She did not see the humor in the situation.

"I told him the entry code was the date of our first meeting and I'll bet he can't remember what it is." I laughed again.

"He seemed quite agitated when I called the house and he answered," The woman said.

"I'll bet he did!" I muttered, still chuckling.

"Also, he didn't seem to know his personal code number."

"No, he wouldn't," I admitted.

"I was about to summon the police, but I thought I'd try checking with you first."

"I'm so glad you did! Look, we've been with another alarm company for twelve years and connected to your system only three days ago. This is the first time he's entered the house alone when the alarm was set. I'm sure he was in a hurry and just forgot."

I had just pulled back into traffic when the Lone Ranger sounded again. This time, I had my cell phone on the seat beside me.

"What in tarnation is going on around here?" It was Don. "I put in the code you told me, and nothing happened. I tried two more times, and sirens and whistles started going off."

"Now, who is it that doesn't remember 'important dates'? We met at Mexfair in San Antonio, right?"

"Right."

"That was 1976."

"'75," I corrected.

"Nope, I gotcha! Before me on a shelf in the hutch, I am looking at a little Mexican pottery souvenir cup, filled with toothpicks, which you got at the Tequila Sunrise booth at that very event. On the front of the cup, it says 'Mexfair - San Antonio, Texas - 1976.'

Oops! What could I say!

"Are you sure about that?"

"I'm looking right at it."

"Okay, I guess you're right." I admitted sheepishly.

"Of course," Don replied modestly. "There's one thing I want you to remember, the next time I punch in the wrong code, due to your mistake."

"What's that?"

"The truth is mightier than the alarm system."

Whatever that means!

TNL

AutoSmart Advisor

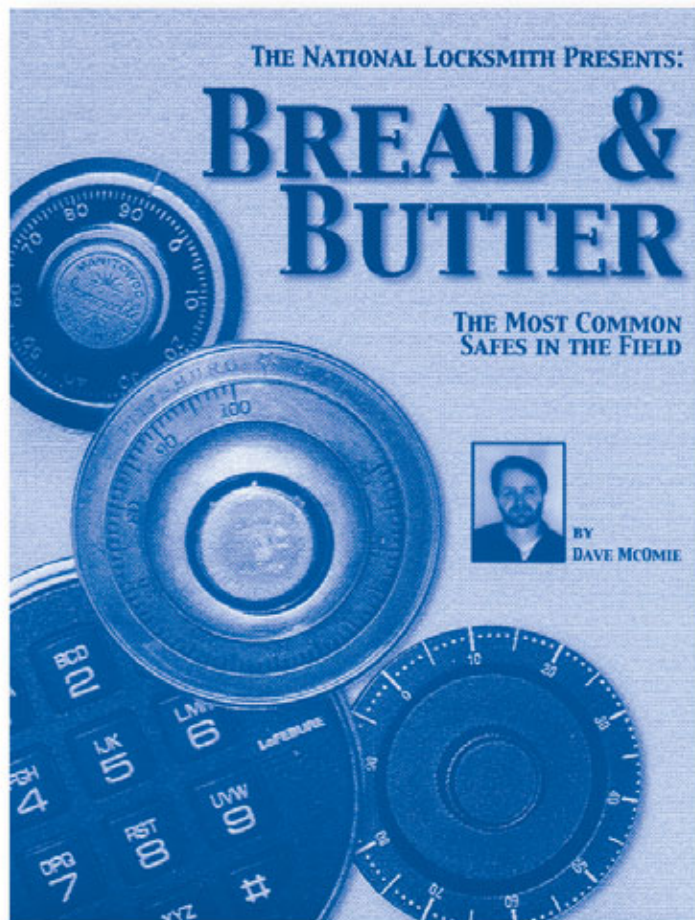


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Bread & Butter

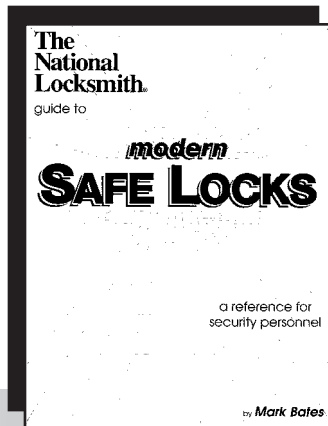


Now here is one amazing value!

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#BB - 01

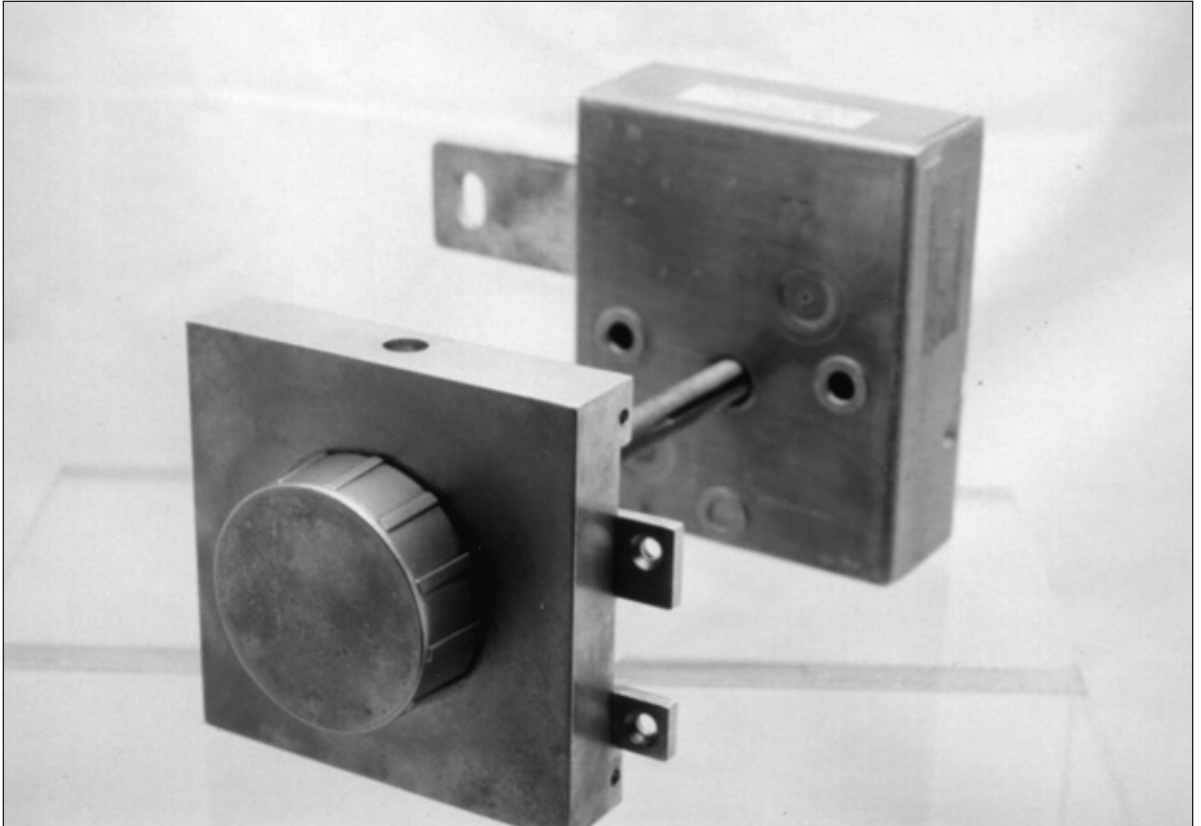


This material was excerpted from the Mark Bates book titled **Modern Safe Locks**. The book covers combination operating and changing procedures for virtually every combination lock both mechanical and electronic, that you will encounter on a daily basis. **Modern Safe Locks** is available for purchase through **The National Locksmith**.

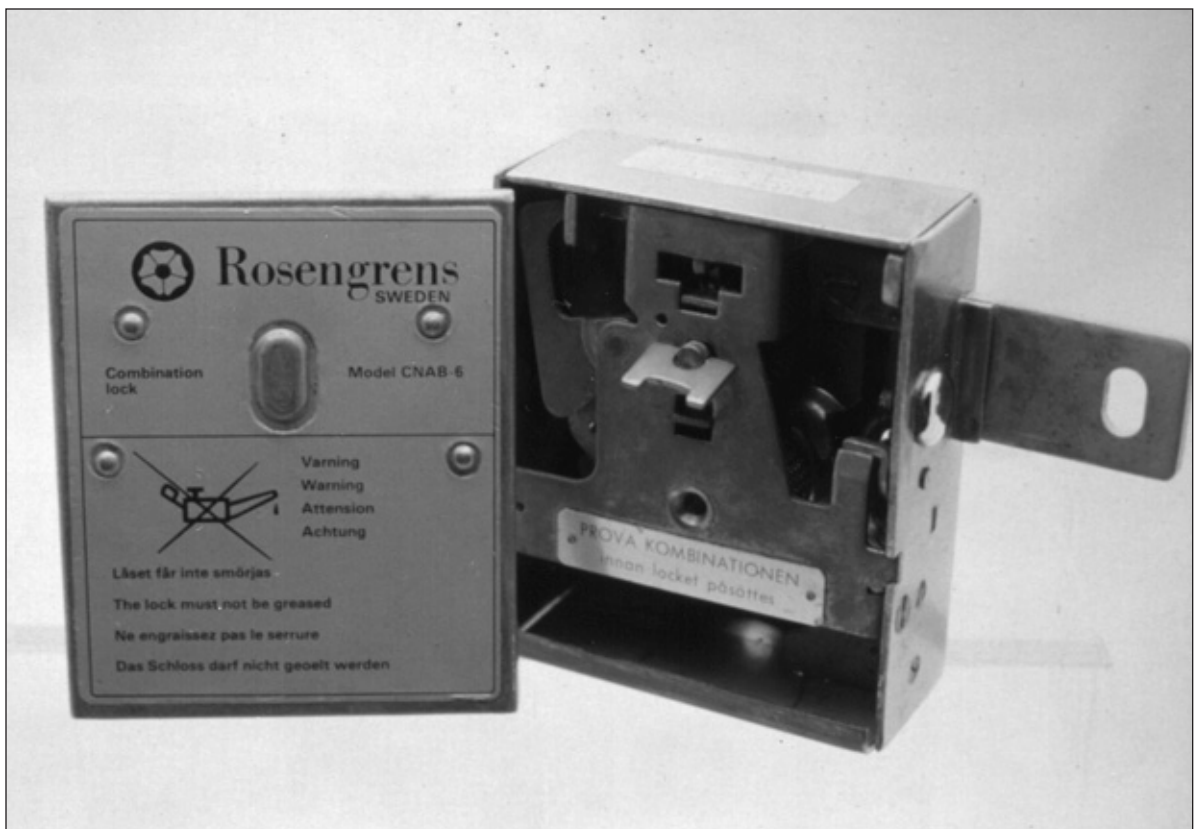
Rosengrens

- MODEL:** **CNAB 6** (*Discontinued*)
- DESCRIPTION:** Six wheel, dial operated combination safe lock. The dial will not turn a complete revolution in either direction. The dial is inscribed with the figures "+ X V 0 9 8 7 6 5 4 3 2 1" which are viewed through a port in the dial ring.
- RATINGS:** UL Group 1
- FACTORY COMBINATION:** 1-1-1-1-1-1
- OPENING PROCEDURES:**
- Turn dial right to stop.
 - Turn dial left to stop with a firm motion.
 - 1XR to 1.
 - 1XL to stop. Use a firm motion.
 - Repeat steps *c* and *d* for the other five numbers of the combination.
 - Turn dial right to stop.
- TO LOCK:** Turn dial left to stop.
- CHANGING PROCEDURE:**
- WITH THE SAFE DOOR OPEN...**
- Dial the existing combination using steps *a* through *e* under "Opening Procedures".
 - Turn dial right to the "+" sign.
 - The back cover can now be slide up and out to remove.
 - Turn dial left to "0".
 - Turn the changing tab visible inside the lock 1/2 turn right to stop.
 - Dial in a new combination using steps *a* through *e* under "Opening Procedures".
 - Turn changing tab 1/2 turn left to stop.
 - Test the combination (back cover still removed) using steps *a* through *f* under "Opening Procedures".
 - With the bolt withdrawn after the above step, turn the dial to the "+" sign and re-install the back cover.
 - Again test the combination. Simple, eh ?
- TOOLS NEEDED:** None
- NOTES:** This is one of those locks that you might not see too often, but that you're glad to have some information on when you do. The CNAB 6 is made in Sweden, but can be found on vaults in the United States, Canada and elsewhere.

Rosengrens



Rosengrens CNAB 6



Rolling Roller "Safe" Safe Moving



by
Dale W. Libby, CMS

also learn a new technique or two in the process.

I recently attended a Professional Safe Moving Class in Dallas, Texas. The two day course was offered by Defiant Safe Company which is a subsidiary of Rolland Safe and Lock Company. Defiant Safe is also the supplier of the "Safe Chariot," which is a trailer that tilts to haul safes up to about 3500 pounds or so. The course was for people who are moving safes, people who want to get into moving safes, and those just interested. Owning a trailer is not mandatory and this was not a sales meeting to sell anything. It was an open discussion of several areas of moving large safes safely, with a give and take from the audience. It was a structured class with plenty of time for questions and answers, give and take on all areas of safe work including opening and repair of many units.

The primary thrust was on safety when moving heavy objects that can be the weight of a small car, and about the size of a large refrigerator. This was accomplished quite well by having one of the Defiant safe moving gurus show us how to do it right. Scott the instructor, moves safes during the week, and he took off from his heavy schedule to show us how a young man of about 150 pounds could move, spin, place in corners, go over thresholds without

damage, and make the safe do anything he wanted to do.

The safe used in the demonstration was a Fortress that weighed in at about 2500 pounds. It was quite incredible to see this young man move this safe up and down stairs by 'cribbing.' We will talk about that later with some specific comments. First I will take a brief walk through the Professional Safe Moving Training Course Reference Manual supplied with the course.

Professionalism is the first topic covered which shows you how to maintain a proficient and skilled attitude when dealing with the public. A lot of information must be gathered before a job can be accurately quoted, and many things, including the customer and his work, must be taken into account. This is not like quoting a rekey job. Many factors must be taken into consideration before a safe moving job should be attempted. Even allowing for the clean up time must be factored in. Several ideas are given here to accomplish this in an expedient and practical manor, especially when dealing with the public and the owners of the building or the mall that the safe is in or is being moved into.

Next, the rather complicated rules of "Safety First" are covered in detail, with lots of discussion and personal anecdotes from the teachers and students. The safety of the mover is primary, with the safety of the client next. The mover should be in complete charge of the move with no heckling or advice giving from the audience (customers). The men making the

move are in complete charge, period. Fewer mistakes will be made with only one chief. Body mechanics in moving heavy objects is also covered here with the focus on no accident occurrence and no injuries sustained.

Another fascinating aspect of safe moving is the physics involved for both the safe and the moving technician. I learned a lot here. Many things I took for granted were wrong, and could have caused me specific problems. Some of the topics covered here were Center of Gravity, Drag, Friction, Momentum and Resonant Energy. Center of Gravity, what could that have to do with moving a safe? It has a lot to do with tipping a safe when moving it either on flat ground or through a doorway.

A general comment on older safes, not the X6 variety of newer protective safes, was really enlightening. On most old safes, 25% of the weight of the safe is in the door. This makes safes, not only gun safes, 'door heavy.' When picking up safes to move from the front, the center of gravity is in the middle of the outside door. If there is an inner chest, then the center of gravity is moved most times downward due to the additional weight of the inner chest.

If you are moving a safe from the side on your pallet jack, then the center of gravity is moved towards the door. When you pick up a safe and balance it on your moving equipment, it is important to take into account the position of the center of gravity. This will keep the load balanced and will assist you in the moving of the heavier units. Make gravity, momentum, and

friction work for you, never against you. Simple concepts will keep both you and the safe from moving into dangerous areas with a little foresight on your part.

Another new concept, which I never thought about, was Site Survey and Preparation. Sometimes it will be impossible for you to survey a site for the safe to move into, but I now go the extra mile (miles) to see what I am up against. This is for your benefit. I have moved safes and asked the customer if there were any ceramic floors or stairs involved. Most times I get a vague answer at best, and it is usually way off the mark.

I learned that a good way to close a safe sale in your store or on the phone, is to ask the customer if you could make a survey before the safe is moved to be sure that it will fit and be sturdily supported. By offering him a free survey gives him the information that you move safes. If he asks you how much it is, you can tell him that depends on the results of the survey.

You might quote him a minimum move (if you are brave) without



I. Plating over grass with 2 X 4's and aluminum plates.

seeing the place first, but with Mr. Murphy always present, it is better to look first, think, and takes notes of any special equipment needed before quoting a price. The best way to move a safe is the safe way, which may not be the easiest or quickest. By taking a survey of the physical attributes of the place you will be moving the safe to before you move it, you will be saving yourself a lot of grief, sorrow, unhappiness, and woe.

Now, on to the fun part of the course. Specialty equipment, both

professional and homemade, is discussed in stunning detail. For any professional safe move, plating is needed. Plating used by Defiant is made of aircraft aluminum of specific lengths and widths. The technical numbers for the aircraft aluminum used is T 60/61. As seen in *photograph 1*, plating with two-by-fours can even be used to move heavy safes over grassy areas. Here the plates are being used to align the safe with the second level stairs

Continued on page 96

The National Locksmith.

The Best Of Dale Libby



This book contains a specially selected collection of new and reprinted articles from author and safecracker, Dale Libby. Topics include: Safe opening, service, and tools; Car opening; Alarms; Locks; and Much More!

The Best of Dale Libby

These are the articles that started the safe opening revolution.

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#DALE

Continued from page 93

before starting to crib the safe higher and higher.

Many types of pallet jacks, roll-lift equipment, and pinch bars are discussed and demonstrated. Both powered and non-powered pallet jacks are demonstrated. Lifting, moving, and spinning the safes are instituted, and the correct and easy ways to place a safe or money chest precisely in a corner of a room are shown. One of my favorite tools was the door cradle. (See *photograph 2.*) This tool allows the easy removal of the heaviest safe door quickly and easily and a place to store the door when working on the safe or door bushings.

Scott gave an example of how he solved a moving problem by taking off the door of a large Gem Safe. The power lift on his large truck was only rated for 6000 pounds. The safe he was moving weighed in at nearly 7000 pounds. He moved the safe to the back of the truck and removed the door with the door cradle. He then raised the safe, which now weighed less than 6000 pounds to the bed of the truck. He then moved the cradle and the door to the bed of the large truck. He then easily remounted the door to the safe and tied it down. When coming back to the factory, they used a forklift to take the safe and door off the large moving truck at

the same time without having to remove the door again

A lot more specialty equipment is also discussed, like stair climbing lifts of several manufacturers. Other types of trailers were shown and demonstrations given. Most of the small tools can be homemade or purchased locally. A few will require fabrication. The door cradle is one of these tools, and Defiant gave the class members blue prints for making their own units. Other tools. Like the "Z" jack were discussed and shown.

During the class, Rick Rolland, head teacher, told how he used the door cradle to remove the door off of certain Tann safes and how he worked to remove and replace the hinge bushings. He stated that it may take minutes to remove the door, minutes, hours, or days to remove the bushing, and minutes to remount the door again. One of the people in the class was a machinist. He doodled a drawing of a tool that might be made to quickly remove these troublesome bushings. This is an example of the give and take of the class. Rick who ran the class quite well, was happy to receive this idea.

On the second day there were a lot of demonstrations and a tour of the Defiant facility. Rick has an

unbelievable collection of old safes and chests. Suffice it to say I was impressed, and I am not that easily overwhelmed by old safes, money chests, Banker's Safes, and 100 year or older units. The trip was accented by this unique collection. Newer safes were also shown, including many safes that Defiant sells and works on. Many in the class were drooling with desire after seeing these antiquated units.

We talked about the two major types of elevators and what we should and should not do when moving safes with an elevator. Most of it concerned safety tips and what should be done before moving anything in an elevator, and not just checking the rated load that the elevator can carry. Vault doors were briefly touched on at this time as well.

Cribbing. That is the term that riggers and safe moves use to describe the moving of a safe up or down stairs. The safes in question are too heavy to use stair-climbing equipment. One man can crib a safe, but two make it go easier. One is below the safe and one is above, giving safety tips and letting the bottom man know when he can move the safe and pallet jack to the next level. *Photograph 3*, shows the mini-platforms that are used while cribbing. You have to see it to



2. Door removal cradle used with Pallet Jack.



3. Small platforms used in 'cribbing' doors up and down stairs.

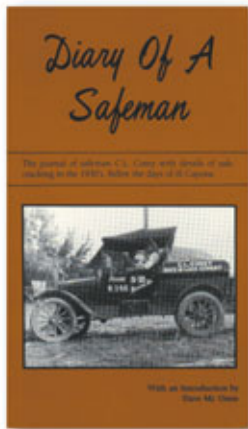


4. Starting the cribbing at the bottom step.



5. Leveling the platform on a downward incline so the safe can be moved up or down safely.

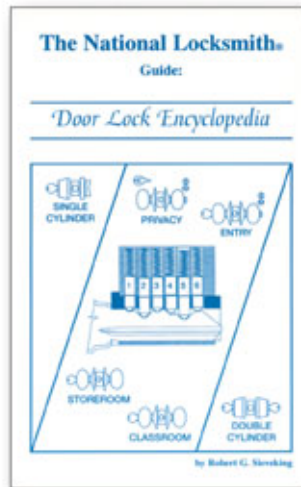
Diary Of A Safeman



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#DIARY

Door Lock Encyclopedia



The ability to remove a lock from a door, disassemble the mechanism, and remove the lock cylinder for service is not always a simple straightforward task.

[CLICK HERE TO LEARN MORE](#)

#DLE

believe it. A brief description is to raise the safe to the level of the first stair, put in a mini-platform and a sheet of plating, and then move the safe to rest partly on the first stair and your cribbing wood. Raise the safe again, etc.

To see one man do this is a work of art. The class helped Scott a little, and most were quite impressed at how easy, albeit slowly, this process is. Never hurry or disaster is sure to happen.

A large part of safe moving is having lots of wood. This includes, but is not limited to specific lengths of two-by-fours, four-by-fours, four-by-sixes, etc. Shim wood is also needed in various lengths. The safe must be kept level, side-to-side and front to back at all times. *Photograph 4*, shows the start of the cribbing process.

Once you have the safe moved to the top of the stairs, you have to build a level platform for the safe to move on. This is shown in *Photograph 5*. Make gravity work for you. Once the safe was moved to the top of the handicap ramp, we were shown how to move the safe

over the aluminum threshold without crushing it. Plating was done on all carpeted surfaces and how to correctly overlap the plates was shown.

After moving a lot of stuff, the class sat down to discuss promoting your business, tips and tricks. A safe moving questionnaire was shown and how to use it for the customer on the telephone. Marketing and self-promotion was also discussed, with several examples shown in the manual. A lively discussion of different pricing policies was thrashed out at length. After this discussion, most agreed that moving a safe could be as, if not more profitable, than opening them. At least, at times, it might be easier. Offering this practice of moving safes will be a large money maker in the future.

Before I took the safe moving class, I was approached by a Harley Davidson motorcycle dealer that was selling National Gun Safes. He wanted to see how far I would move them and how much it would cost. I told him to call me back in a few weeks and I would have a better

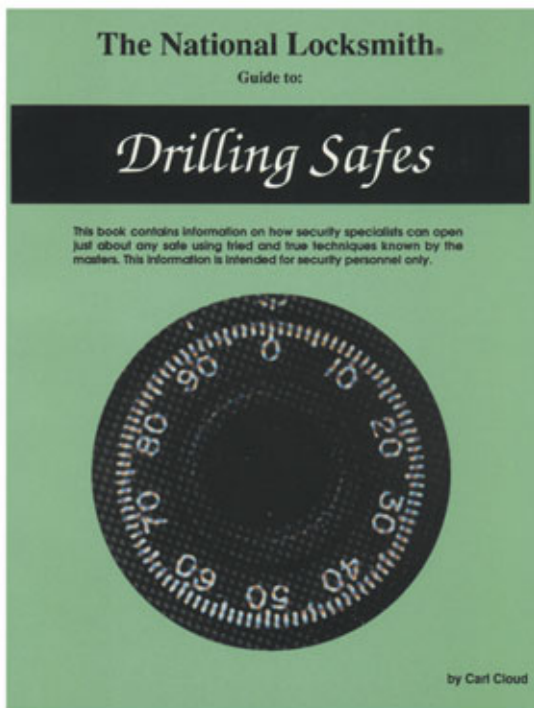
handle on how much and what to charge. Hopefully this gun safe move will prove to be profitable, once I feel adequate and have the right equipment.

In conclusion, the class was great. I learned a lot as well as the other 10 students did. I did not want the class to end. Everyone was excited and wanted to get out and move something. Another benefit of the class was to meet other safemen in the industry. War stories are always interesting and usually funny, in an educational way.

So, Open, Move Safes and Prosper. I am going to. It's a new and exciting challenge.

For further information on the safe moving class, contact Rick Rolland at:

*Defiant Safe Company, Inc.
3140 Towerwood Drive
Dallas Texas 75234
Phone: (800) 225-2984
Fax: (972) 241-7669
E-mail: glenn@defiantsafe.com
Website: www.defiantsafe.com
Circle 276 on Rapid Reply.*



Drilling Safes

One of the most expert safemen in the country, Carl Cloud has written a very important book on safe opening.

CLICK HERE TO LEARN MORE



#DS - 1



THE CASH STATION

by Mark Daniel

Diebold Locker Unit

SPEC SHEET:

Safe Manufactured by: Diebold

Safe Model #: Locker Unit

UL Rating: None

Door Size: 20-5/8" wide x 38-1/2" high

Handle Type: L-style

Handle Location: 2-1/2" right of opening edge and 19-1/4" down from top of door.

Handle Rotation: Counter-clockwise to open.



Dial Center to Handle Center: 4-3/4" Right of handle center. (Measurement is from lower lock.)

Dial Location: **Upper lock:** 7-1/4" Right of opening edge & 14-3/4" Down from top.

Number of Door Locking Bolts: 3

Door Locking Bolt Locations:

Top: 1-1/2" right of opening edge.

Bottom: 3-5/8" right of opening edge.

Center: 19-1/4" down from top of door.

Door Locking Bolt Diameter: 3/16" flat bar stock.

Door Thickness to Bolt Center:

7/8" for all bolts.

Door Thickness to Lock Case: 1/2"

Door Thickness to Back of Lock: 1-5/8"

Combination Lock Type: (2) Diebold 177-23B

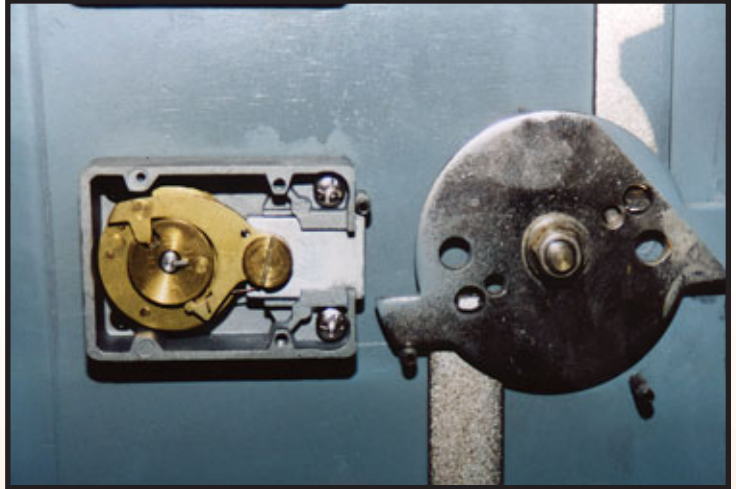
Combination Lock UL Rating: UL Group 2

Combination Lock Description: 3 wheel, key changeable combination locks.





THE CASH STATION



Combination Lock Case Thickness: 1-1/8"

Number of Wheels: 3

Combination Driver Location: Rear

Combination Lock Handing:

Both are right handed (R.H.)

Combination Drop-In Location: 98

Forbidden Zone: 90 to 10

Combination Lock Opening Procedures:

Left 4x to first number. Right 3x to second number. Left 2x to third number. Right to stop.

Combination Lock Drill Point:

Drill at 97-98 at 7/8" out from dial center. Sight wheel directly under fence.

Combination Lock Relock Trigger Type: None

Combination Lock Relock Trigger Drill Point:

None

Combination Lock Changing Procedures:

Dial the existing combination to the opening index. Insert change key into back of lock and turn counter-clockwise one half turn. Dial new combination to opening index using same procedure as opening lock. Turn change key clockwise one half turn and remove. Test combination.

External Relock Device Type:

None

External Relock Device Drill Point:

None

Notes:

Door is drilled from the factory for the possibility of three combination locks. The upper lock in these pictures appears to have been added on. Possibly a kit.

Special Note:

No Handle cam punching here. The lower bolt is only attached by less than one-quarter inch. If punched, the lower bolt is sure to disengage.



Road Rally

A showcase of locksmith service vehicles.

If you think your vehicle has what it takes to be featured here, send photographs and descriptions to:
The National Locksmith, Road Rally, 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861.



Owner: Joseph Mangione,
Saratoga Springs, NY

Owner: Jean-Pierre Aumont,
Gatineau, Quebec, Canada



Owner: Ken Zelten
Model: 1980 Ford
Econoline 350

Owner: Shannon
Security & Lock,
Gaithersburg, MD



Continued on page 116

TECHNITTIPS

2001 Year End Winners

Grand Prize

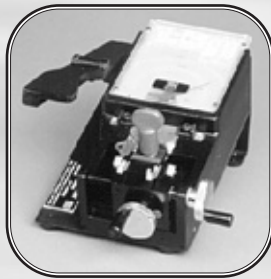
Silca Bravo Duplicator



David Craig from Illinois, for his 6-pin progression chart.

1st Prize

HPC's 1200PCH
Punch Machine



Les Williams from Pennsylvania, for his Ford ignition tip.

2nd Prize

Mas Hamilton's
PowerLever 2000



Bob Coleman from Illinois, for his employee cylinder tip.

3rd Prize

Curtis 2200 Duplicator



Chris Shook from Tennessee, for his AMSEC opening tip.

4th Prize

SDC Magnetic Lock,
Keypad and Exit Switch



Steve Cavazos, Sr. from Texas, for his cam lock modification tip.

5th Prize

Securitron 12-Volt Unlatch Plug in
Trans & Touchpad



Robby Stout from Texas, for his home made VATS interrogator key.

6th Prize

LaGard "SmartGard"



Brian Jensen from Oregon, for his tip on picking Everest and Primus cylinders.

7th Prize

Detex Advantex



Ben Marshall from Florida, for his pinning jig trick.

8th Prize

Arrow Exit Device and
Mounting Kit



Everett L. Dobbs from California, for his GM quick key tip.

9th Prize

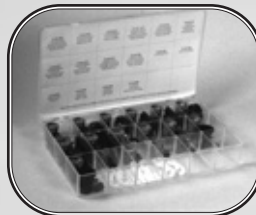
\$500 in BWD Products



Daryl Paternostro from Louisiana, for his All Lock decoder conversion tip.

10th Prize

\$500 in ASP Auto Locks



Mark Caudill from Texas, for his Mercedes tip.

11th Prize

\$500 in Strattec Auto Products



Leonard Downing, CPL from Oregon, for his door sag correction tip.

12th Prize

Tech-Train "Jiffy Jack"



Steve Fox from Great Britain, for his tip on impressing Tibbe keys.

13th Prize

Sargent & Greenleaf 6120 Electronic Safe Lock



Duane Habelock from North Dakota, for his tip on picking gumball machines.

14th Prize

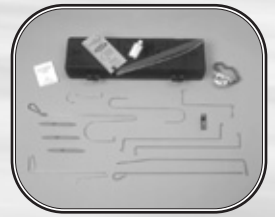
High Tech Tools 2000 Pro Set



Dennis Harmon from Colorado, for his Mini Mag loading tool tip.

15th Prize

Slide Lock's Master "Z" Tool Set



Tony Wiersielis from New Jersey, for his Arrow key gauge tip.

16th Prize

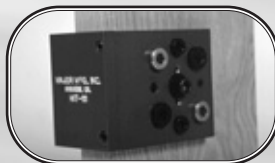
ESP Products Sampler



Michael Maldonado New York, for his Sargent bypass tip.

17th Prize

Major Manufacturing's HIT-111 Drill Guide



James A. Bradshaw from Canada, for his Weiser/Schlage conversion tip.

18th Prize

Abus Padlock's Marine Padlock Display



Don Dodson from North Carolina, for his deadlocking spring latch tip.

19th Prize

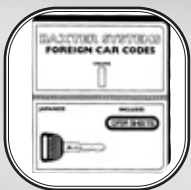
Mark Bates Associates Falle Pick Set



Joan Yarrington from Texas, for her progression charts tip.

20th Prize

Baxter JV-1 & JV-5 Code Books



Robert A. Williams from California, for his van opening trick.

21st Prize

Sieeking Products Squeeze Play



Ralph Iden from Michigan, for his Ford tire lock tip.

22nd Prize

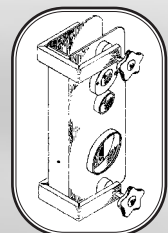
Rodann's RV 500 Annunciator System



Merlin V. Bechtel from Missouri, for his bolt down tip.

23rd Prize

A-1 Security Manufacturing Installation Jig



Dan Corner from Florida, for his tip on a door holder.

24th Prize

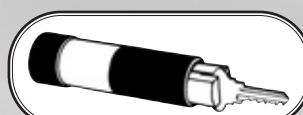
Keedex Sampler



Jonathan Muhammad from Georgia, for his Nissan progression chart.

25th Prize

Framon Impressing Handle



Robert Smith from California, for his Sentry opening tip.

26th Prize

Gator Tool Multi-Purpose Facecap Tool



Don Brown, CML, CPS from California, for his HPC 3300 key machine modification tip.



*BWD KWIKIT
 WINNER:
 Key Code
 Registration Cards*

I do not do transponder programming, but I do originate keys and cut code keys for non-transponder equipped cars. To help generate that type of business, I came up with the idea of giving dealerships in my area Key Code Registration Cards (*see illustration 1*). The Key Code Registration Card is designed to be given to the purchasers of new vehicles.



Illustration 1.

The cards do not ask for any information that might compromise the security of the customer or their vehicle, but does contain enough information to allow me to generate a key by code for them in the event they lose or misplace their keys.

As you can see they list the VIN number of the vehicle, a special four-digit identifier and the key code from the key tag off of the key. Then they mail me the card, which I keep on file. Should the customer need my services, all they need to do is call me, give me their four-digit code and I can generate a key for them.

This card is universal and can be used by any locksmith shop. Just take the idea to your printer, have the printer put your name and address on the front and let the dealers give them to new car purchasers.

Since I've been using this idea (a few months) I've already had enough calls to more than pay for my printing costs. I think this is a good idea and

A Few Words From Jake...



*by Jake
 Jakubowski*

As you can see from the preceding page, there are some happy locksmiths out there that have been awarded our year-end prizes.

For those of you who are new to the trade, The National Locksmith and the Technitip column, is made up of guys and gals who are locksmiths, sharing their tips and tricks that might make someone else's life a little easier. Some of those folks are old hands at this business and some are fairly new to the trade, just starting their locksmithing career. Some of them are shop owners, some of them are employees of a lock shop or an institution, and every now and again, I'll even get a tip from a student. However, they all had one thing in common: They had a tip, trick or idea they wanted to share and took the time to sit down, write it out and send it in to me.

If their tip is published they won a monthly prize, and because they did win a monthly prize for their tip, they became eligible for the year-end grand prize drawings. Twenty-seven of those tip contributors won a year-end prize, in addition to the prize they won the month their tip was published! That's a pretty good deal.

If you send in a tip or trick on a way to do any of the thousand of things you do every day that's easier, quicker, safer or more practical, and I decide to publish it, you get your name in the magazine, you get a prize, and you become eligible for the year-end drawing. Very nice year-end prizes I might add. What could be easier?

You can mail you tips by snail mail or email. Just make sure that you include your full name, your physical address and a daytime phone number. We need the address to send the prize to. P. O. Box numbers are acceptable

Those prizes that are awarded each year are provided by the manufacturers and distributors that very generously contribute to the prize pool year, after year, after year. I can't thank them enough for their contributions. If you're a prize winner, why not drop them a note and thank them as well. I'm sure they would appreciate it.

See y'all next month.

an income generator for locksmiths.

*Frank Kitchen
 Indiana*



*WEDGEKO KEY
 EXTRACTOR WINNER:
 Changing A Best Core
 Without A Control Key*

My customer needed to change a Best interchangeable core with a patented keyway, from a rim cylinder to a mortise cylinder because of a change in the locking system on the door. Unfortunately, he did not have a change key.

I have the Gerry Finch turning tool for I/C but by the time you get the tool in the keyway, there's not much room left for utilizing a pick, which prevented me from picking the plug to the control shear line.

By doing some creative hacksawing, I was able to remove the core from the rim cylinder, but was still faced with the problem of getting

the old core into the new cylinder housing without a control key.

Here's how I solved my problem:

Once I had the core out of the housing, I removed the caps and then removed the springs and drivers (top pins). By doing so, I removed the "blockage" that kept the control sleeve from turning to the removal/insertion position. Then I simply depressed the control lug into the plug. Once there, I re-inserted the drivers and springs and replaced the caps on each chamber. All that remained was to insert the core in the new mortise cylinder housing and use a screwdriver to turn the lug to the locked position, thereby securing the core in the housing.

Remember that the sleeve was turned when I put the drivers back along with the springs and caps. Therefore, nothing blocked the control sleeve from being turned with a screwdriver.

The only cautionary note would be to not leave the springs depressed between the caps and the driver pins for more than a few minutes as the over compression might damage the springs.

*Doug Olenick
 Ontario Canada*



**STRATTEC WINNER:
 Chrysler Ignition
 Trick**

According to the information I had, the pre-1998 Chrysler ignitions were not supposed to be serviceable. I found that this is not so.

To service this ignition, first remove the lower plastic shroud, which is held in place by three screws. Insert a working key in the ignition and turn to the first position, depress the square retainer on the underside of the lock and pull the complete unit straight out of the column.

Once you have the ignition out, there is no visible retainer, or pressed on cam, so it appears that the lock will not come apart. Again, not so. Turn the key back to the accessory position, depress the rounded brass stop pin that limits the plug's travel and continue to turn the plug counter-clockwise past the accessory stop another ten or twenty degrees. The plug and key will now pull straight out for servicing or rekeying. Very much like the old GM in-the-dash ignitions.

NOTE: be very careful not to lose the small black buzzer actuator, located in the side of the plug casing.

After servicing, carefully reassemble the ignition in the reverse order, test the lock for proper operation and reinstall in the column. This procedure took me less than fifteen minutes and saved the customer the cost of a new lock cylinder.

Of course if you do not have a working key, then you have to generate one by code, pick or impression the lock to service it.

Just a quick note: I would not want to go back to the "Good Old Days" before we had so many great publications and information available to help us make our jobs easier. But, aren't we sometimes, a little too quick to believe everything we read, without exploring other options?

*John C. Smith
 Florida*



**HPC WINNER:
 Quick Fix For
 Dogging Device**

The dogging device on a Kawneer Panel Line Exit Device (the kind that is built right into the narrow style glass door) broke, and the customer needed to be able to dog the unit open during business hours until a replacement part could be ordered.

As a quick fix, I used a TEC screw to attach a seven-pin key blank to the aluminum panel next to the push panel. To "dog" the unit open, I simply pushed the exit device in, flipped the key operated dogging

device over the end of the push bar, and released the push bar.

There was enough back pressure from the push bar to wedge the key operated dogging device in place, thereby locking the unit in the open position. This worked until permanent repairs could be made.

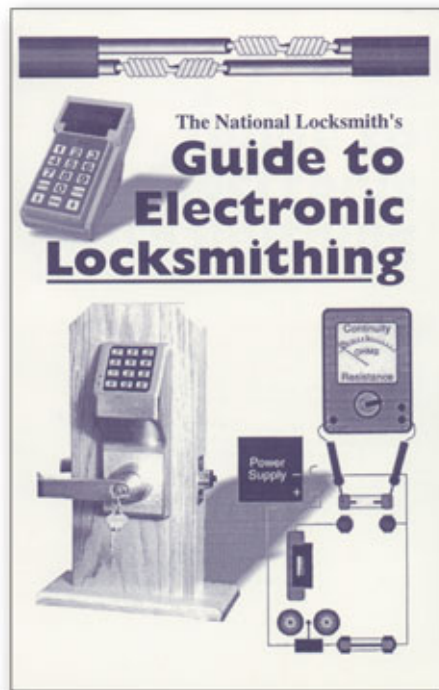
*Jay Christie
 North Carolina*



**SARGENT &
 GREENLEAF WINNER:
 Lost Combo
 Recovery**

I know that anybody that knows anything about safe lock

Electronic Locksmithing



Everyone knows there's big money in selling, installing and servicing electronic security such as mag locks, electronic strikes, and simple access control.

CLICK HERE TO LEARN MORE



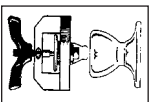
#EL - 1

servicing will probably already know this. But, maybe there are some new folks out there that have never had to follow up on a do-it-yourselfer who changed their own combination and lost it.

When I arrived at my customer's location, he told me he had changed his safe combo earlier and now the safe wouldn't open, I figured he had dialed the new combo to the opening index. I dialed the combo he gave me eight numbers lower (the difference between the opening index and the change index on an S&G 6730) and the door opened.

Don't you just love those D.I.Y.'s?

*Jimmy Fordham
 Massachusetts*



**A-1 SECURITY PRODUCTS WINNER:
 I/C Cylinders**

Simplify Panic Hardware Rekeys

I have a number of commercial accounts where I have to rekey the panic devices every time I rekey the other locks after an employee change. I've always found it frustrating to remove the device, remove the cylinder, rekey the cylinder and then reassemble everything.

Then I got the idea of using I/C on the panic devices even if the other doors used a standard cylinder. I sold the customer on the idea and now when I have to rekey one of the panic devices, I simply get out the control key, remove the core, rekey it and replace it, while leaving the panic device on the door.

The customers like their "special" key for outside entry on the doors equipped with panic hardware and I save time when it becomes necessary to rekey them.

*Pete Gamble
 North Carolina*



ILCO KEY BLANKS WINNER:

Stabilizing A Rim Cylinder

Working with rim cylinders on metal doors has been a problem for me, but I have found a way to stop them from turning. With the cylinder installed on the door before you put the panic bar or lock body on, drill a 1/8" hole at the top right, or left, corner and one at the bottom and put in roll pins. This stops the cylinder from turning and you can always punch the pin out.

*Jess Tom
 Iowa*



**KEEDEX WINNER:
 Sliding Glass Door Tip**

When installing Charley bars, locking pins or most any hardware on sliding glass doors, grind, or cut, the butt of your drill bits down to about a 2" length. Chuck the cut down drill bit so that no more than 1/2" protrudes from the end of the chuck.

This modified bit will make it virtually impossible to drill deep enough to break any glass or chew up any seals. As always, on a sliding glass door, proceed with caution.

*Glenn Starling
 Florida*



**TECH TRAIN TRAINING VIDEO WINNER:
 Picking Aid**

If you have ever picked a master keyed deadbolt and turned it one hundred and eighty degrees and had the master pins or top pins get trapped in the broaching on the bottom of the keyway, you know what a frustrating experience that can be.

It happened enough to me that I decided to make a tool that would prevent it from happening as I picked

Flat Rate Manual

Now you can easily
 "Price for Profit!"

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#FRM - 1

the lock. I modified two 5/64" Allen wrenches by grinding them down so they would fit in the keyway. I used the short part of the "L" as the handle and the long part as the blocking tool.

I ground the long shank of the Allen wrench so that it was flat on one side. Next, I ground the upper right hand corner and the other on the opposite corner. This gave me tools that would fit either a bottom-ward-on-left or a bottom-ward-on-right configuration.

Now when I have to pick one of these pesky plugs, I first insert the proper tool to hold the pins out of the keyway, and then pick the lock in the normal manner.

*Terran Melconian
 Massachusetts*



**SIEVEKING
 PRODUCTS GM E-Z
 WHEEL PULLER
 WINNER:
 Cutting "Cookies"
 for Cam Slot**

Recently I had to install a large number of cam locks on wooden cabinets at a health care facility. One of the more time consuming steps with this job was cutting the strike slot for the cam to set into. In the past, I've either routed a groove, or drilled a series of closely spaced holes and then carefully cleaned out the slot with a chisel.

Because of the size of this job and wanting to find an easier way, I looked around for an alternative. I found that the neatest, fastest and most accurate way to cut these slots was with what is known as a "Biscuit Cutter".

A biscuit cutter is a slot-cutting tool that woodworkers use to create a slot to put a wooden biscuit in to join two pieces of wood together. With this tool, I was able to accurately set the depth of cut and distance back from the edge of the cabinet's mullion so repeat cuts were a real breeze. Biscuit cutters are sold at Sears, Lowe's, Home Depot and anyplace woodworking tools are available.

*Bill Cochran, CRL
 Wisconsin*



**MAJOR
 MANUFACTURING
 PRODUCTS
 WINNER:**

Schlage D-Series Fix

I was called to look at a Schlage lock that would not lock when the

inside lock button was pushed in. I determined that the cone spring had broken. I was unable to locate a spring for a Schlage D Series, so I used one from an A series.

I modified the "A" series spring by bending one end to form a straight "tail piece" which fit into the hole on the D series. The modification only took a short while and worked perfectly.

*Bill Wessel
 California*



**SLIDELOCK'S "Z" TOOL
 OPENING SET WINNER:
 Taped Car Opening**

I recently tried to open a

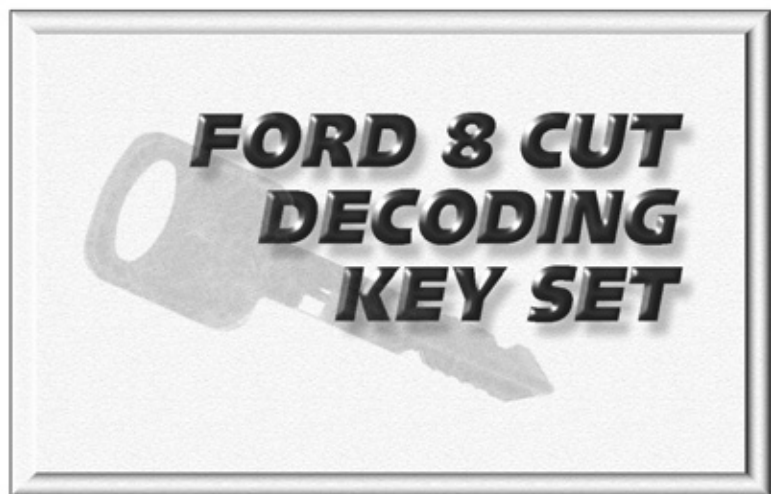
vehicle and the first two tools I used were of no help at all. I then got my across-the-car tool and found that the string on it was missing!

I rummaged around in my truck and couldn't find the string so I picked up a roll of black electrical tape, pulled off about four feet of it and folded it in half (sticky side to sticky side). Then I tied the tape on the across-the-car tool and had that car open in nothing flat!

*Bill Weingard
 Arizona*



Ford 8 Cut Decoding Key Set



Complete with 143 specially cut keys and simple directions. You get door and ignition keys within just a couple of minutes.

CLICK HERE TO LEARN MORE

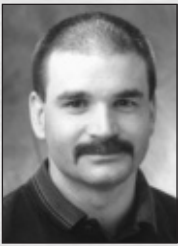


#FD - 8

TROUBLESHOOTING

Electronic Access Controls

PART 1



by
**William C.
Deutsch**

What is the difference between a respected, professional technician and a hacker? One factor is their respective approach to troubleshooting.

A professional walks into a customer's building confidently expecting results, because he has a plan. The hacker pokes around aimlessly, makes the problem worse and then calls technical support and spews because "this equipment of yours is driving me nuts." Anyone who takes that approach to troubleshooting doesn't need to be driven nuts. They're well within walking distance.

If you are an aspiring professional, or an old hand that wouldn't mind a quick refresher, then these articles are for you. I will lay out an approach to servicing EAC equipment that will enable you to locate problems quickly and solve them effectively.

Step One: Be Prepared

Being prepared means knowing the systems that your company installs. If you work for a Medeco® dealer, you ought to know how to program doors and access privileges in the SiteLine® software. You should also know that when the LED

on the Intelligent Lockset™ begins to glow amber, the batteries need to be changed. That factoid alone could save you an unnecessary service run.

If you try to service an unfamiliar system, it may take you hours just to learn your way around. If you're trying to "fix" something and learn at the same time, you'll create new problems without even realizing it. Make it part of your personal mission to become the resident expert on the systems your company sells. When the service call comes, you'll be ready.

I've paid my dues in the field and I know it's impossible to be an expert on every piece of equipment out there. So here's your next project: locate a copy of every possible service bulletin and technical manual that you may need. Organize them and keep them in your truck. Manuals are the next best things to being omniscient.

Step Two: Stay Cool

Yogi Berra once said that 99% of baseball was mental. The other half was physical. Troubleshooting is something like that. Sure, you need the skills – knowing how to use your tools, product knowledge, etc. But the most important tool is your mental attitude. There are knowledgeable, competent installers who are lousy troubleshooters because they go to pieces as soon as they run into trouble.

When you show up at a customer's site, they may be ready to rake your eyes out. After all, it's your company's dumb system that has had people going for her throat all morning. When you walk on site, you

represent the problem, and "You'd better have an answer mister."

Job one is to stay calm. Tell the customer coolly that, yes, you can understand how inconvenient this is, you're very sorry for their trouble, and you're sure you will be able to come up with an answer. This kind of approach goes a long way towards settling everyone down.

Staying cool through the entire troubleshooting process is a challenge. You are to arrive calm and stay that way. Having a systematic approach to troubleshooting will guide you safely through the dank labyrinth of EAC problems, and that is what these articles are about. But before we talk about the method, here are a few tips to help you maintain your composure on the job:

Get Exercise

A regular program keeps you relaxed and fosters a sense of well being. When you've been working long hours on a problem – probably climbing stairs and ladders – a fit body may mean the difference between going home a hero or ending your day in the pit of frustration.

Step Back From the Problem

Sometimes you just have to walk away and let your mind idle. Go have a snack, take a walk, read the paper – do anything to distract yourself. Answers tend to float to the surface when you relax. You may have to get creative in designing your fortress of solitude. If you just can't get away, stand on the top of your ladder with your head poked through the drop ceiling. Anyone walking by will think your tracing wiring or

something technical. All the while, you can be closing your eyes, breathing deeply, reciting poetry – whatever cools your jets;

Watch the Coffee

I enjoy coffee more than the average guy. In the morning, my wife waits for me to pour my cup, and then adds about twice as much water to the pot before she pours hers. A morning or afternoon jolt may help you, but a steady stream throughout the day will work against you. It makes you edgy, and it's hard to concentrate on circuit tracing when you have to use the restroom.

Step Three. Get the Facts

The first two steps dealt with attitude – mental preparation – now we can get down to the work of troubleshooting.

The first step is to lay all the facts out in front of you as if they were puzzle pieces. You're going to have to dig. The important thing here is not to assume that you already know what the problem is and how to solve it.

Say you are responding to a call about an electronic access control system. All that the customer can tell you is "nobody's credential worked." You have to put on your detective cap and start digging. Here are the types of questions you need to ask:

- What color did the LED flash when you inserted the credential?
- Did the LED flash at all?
- Did the reader beep at you?
- How many times did it beep?

Lights and sounds are critical. Most EAC devices have some kind of troubleshooting indicators built in. Those beeps and flashes are how the system tells you what is wrong. Pay attention. As you work with particular pieces of equipment, you start to learn the language of their flashes and beeps. But until you do, you had better have a manual within easy reach at all times.

Other helpful questions have to do with when the problem started. Did the problem surface suddenly, or has it been getting worse gradually? Have there been thunderstorms or power failures in

the area? (Power problems can wreak havoc with electronic equipment. I used to hate being on call on stormy nights.) Does this problem only happen at certain times during the day? Remember that EAC, by definition, works differently during different days and hours. Narrowing the problem down to "when" may point you to a programming problem that can be corrected in minutes. But I got ahead of myself.

Step Four. Eliminate the Possibilities

Sherlock Holmes was the greatest troubleshooter of all times. He summarized his approach to sleuthing in these words:

Eliminate all other factors, and the one which remains must be the truth.

That's the essence of troubleshooting – gather the clues, decide what could cause the condition, and methodically eliminate one possibility at a time.

You will find the answer. It will take patience, and a positive attitude. But anyone of average intelligence who makes the commitment to learn their equipment, and develop a calm practiced approach to troubleshooting will be able to solve most problems. You'll start to develop a reputation as a gee-whiz super genius, your customers will be happier, your value as a technician will skyrocket, and the knots in your stomach will untie.

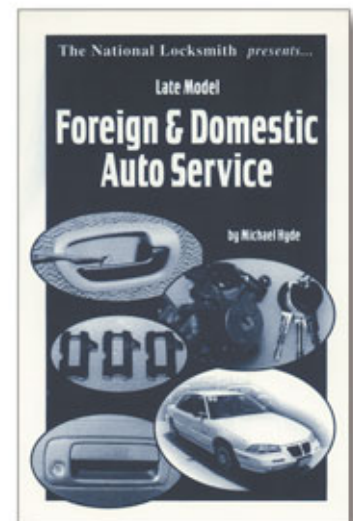
To Review:

Here is how you can become a better troubleshooter:

- Be prepared.
- Stay Calm
- Get the facts
- Eliminate the possibilities

Everything we've discussed so far is preparation. In my next article we'll talk about how to take up the tools, hunt down the problems, and fix them. In the meantime make sure your service vehicle is stocked with manuals. And read some Sherlock Holmes. "The Case of the Speckled Band" is my personal favorite. **TNL**

Foreign & Domestic Auto Service



This book represents the best work of Automotive Locksmithing guru Michael Hyde, author of the famous AutoSmart.

CLICK HERE TO LEARN MORE



#FDAS - 1

Continued from page 107

Road Rally



Owner: Dan Hice,
Schoolcraft, MI
Model: 1998 Chevy
K2500 4WD P/U



Owner: David Keenan,
Essex, VT
Model: 1992 Dodge
Ram Van 150

TNL



The 1997 SUZUKI DR650



by
John
Blankenship

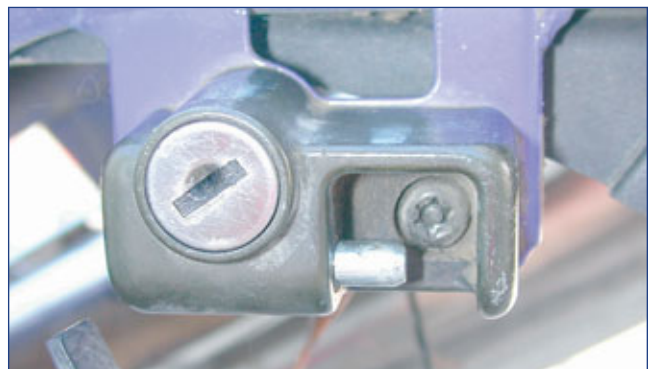


1. The DR650 is a dual-sport bike that is at home in the dirt or on the street. There are no codes anywhere on the motorcycle, but it is relatively easy to originate a key for it.

Helmet Lock



2. The helmet lock is a good source for the first five of the seven cuts that are in the ignition lock. It is located on the left side of the motorcycle under the rear fender and near the end of the toolbox.



3. Pick the lock 45 degrees clockwise to withdraw the locking bolt. This lock picked easy with a rake. Then use a T-30 security Torx driver to remove the one bolt that secures the lock to the frame.



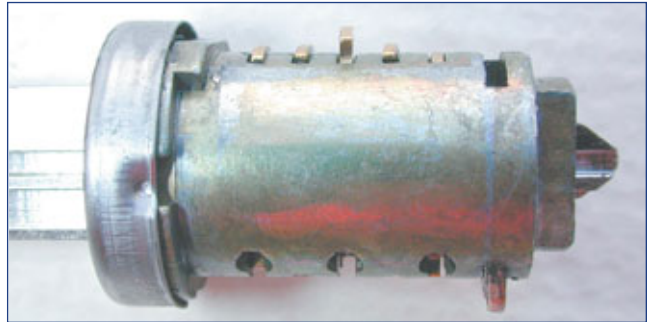
4. The helmet lock is shown removed from the motorcycle. The number on the back of the lock is not the code. Remove the Phillips screw that secures the backing plate to the lock housing.



5. The backing plate is removed revealing the tailpiece and the detent ball bearing sitting on the detent spring. Be careful not to lose the ball bearing.



6. The tailpiece with detent spring and the detent ball bearing have been removed. The plug retainer is visible at the 10 o'clock position on the rear of the plug. Depress it and push the plug out the front of the cylinder. Be careful that the wafers do not fall out. Also, the locking bolt can fall out so pay attention to how it is installed.

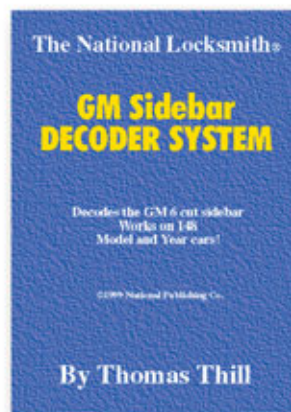


7. The helmet lock plug contains wafer tumblers in spaces 1-5 and the retaining wafer. An X241 blank inserted into the keyway shows that the cuts are 22421. A search using code software revealed that there are only two codes that use these cuts in the first five spaces. The cuts for spaces 6-7 can only be 13 or 34. You can also get the two missing cuts by progression, reading, or disassembly of the gas cap. The wafers don't look strong so be gentle if you impression.



8. The original key is on the left. A code cut X241 with cuts of 2242113 works all three locks on the motorcycle. A reverse search revealed the code as A6632.

GM Sidebar Lock Decoder System



Tom Thill, the author of a new book, has invented an amazing new way to make keys for six cut GM Sidebar Locks.

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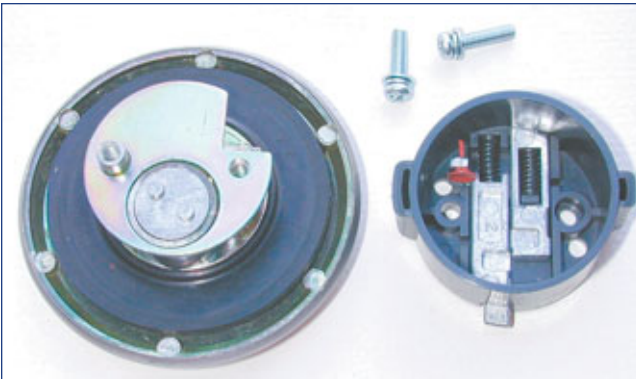
#TT - 1



Gas Cap Lock



9. The gas cap is a good source for the last five of the seven cuts that are in the ignition lock. It is located on top of the gas tank. Pick the lock 90 degrees clockwise to open and remove it. You are picking against spring pressure so have a small screwdriver ready to finish turning it.



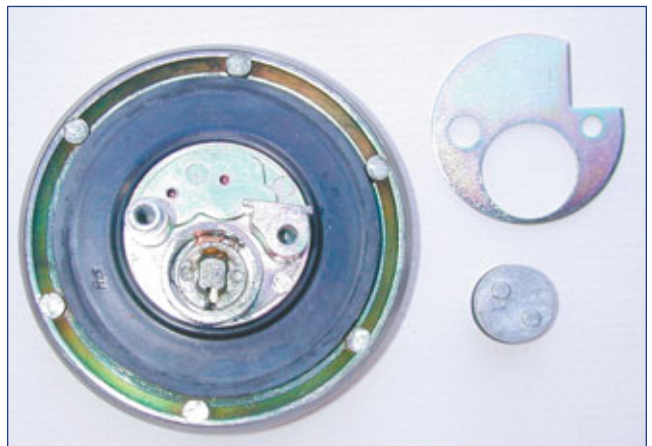
11. The locking bolt housing has been removed along with the locking bolts and springs. It can only be replaced one way.



120 • Visit www.TheNationalLocksmith.com



10. Remove the two Phillips screws from the back of the gas cap.

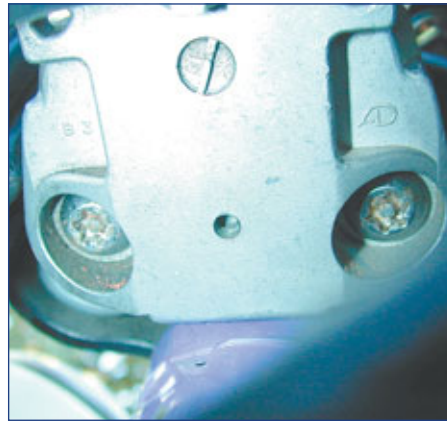
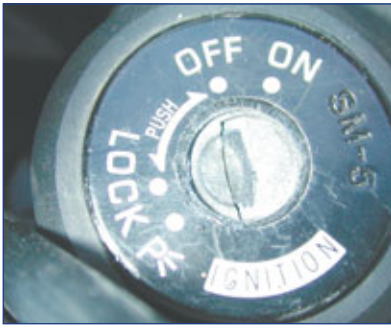


12. The backing plate and tailpiece have been removed. Depress the plug retainer that is visible on the upper side of the plug. Push the plug out the front of the cylinder being careful not to spill any of the wafers.

13. The gas cap plug contains wafer tumblers in spaces 3-7 and the retaining wafer. An X241 inserted into the keyway shows that the cuts are 42113. A search using code software revealed that there are only three codes that use these cuts in the last five spaces. The cuts for spaces 1-2 can only be 22, 31, or 34. You can also get the two missing cuts by progression, reading, or disassembly of the helmet lock. The wafers don't look strong so be gentle if you impression.

Ignition Lock

14. The ignition/steering lock is located next to the speedometer in front of the handlebars. The lock is shown in the "OFF" position, which means the ignition is off and the steering is unlocked. To lock the steering turn the handlebars to the right or left, insert the key, push the plug in, and turn it counterclockwise to the "LOCK" position. Turning it farther counterclockwise to the "P" position turns on the taillight so the bike can be seen when parked on the side of the road at night. You also have to push the plug in to turn it from "LOCK" to "OFF" but you do not have to push it in to turn it between "OFF" and "ON".



18. You now have access to the two T-40 security Torx bolts that secure the ignition lock. The photograph shows them while looking up from above the front fender.

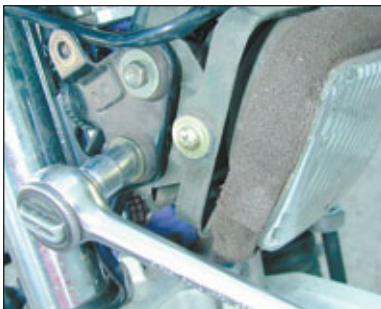


15. If you need to remove the ignition lock, begin by removing the Phillips screw below the front of the headlight that secures the plastic headlight trim.



16. Remove the Phillips screw on the side of the headlight trim and also its counterpart on the other side. You can now remove the trim from the headlight.

17. Remove the two 10mm bolts that secure the headlight assembly. Also remove their counterparts on the other side. Pull the headlight assembly out and tie it to the handlebars to keep it out of the way.



19. A T-40 security Torx driver is shown removing one of the bolts that secure the ignition lock.



GM Steering Column Course



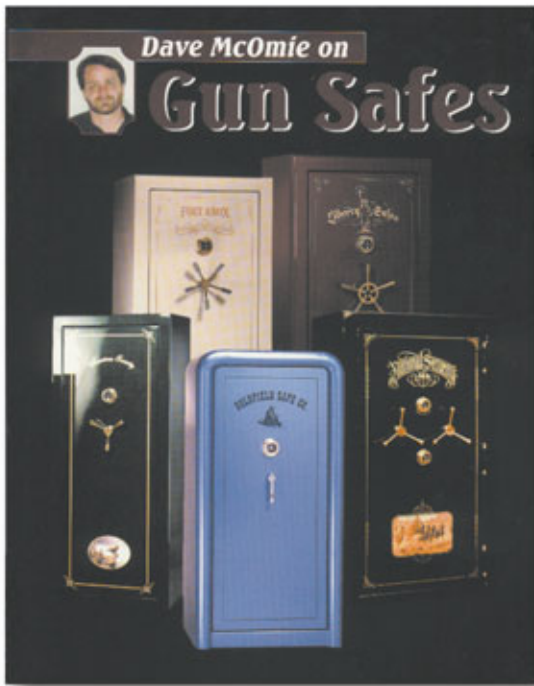
Comes complete with take-home test so you can become certified on GM steering column service! Authoritative training on every domestic GM column from 1967 to 1995.

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#GM - 2



Gun Safes



Need a drill point or relocker drill point on a gun safe?

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#GS - 1

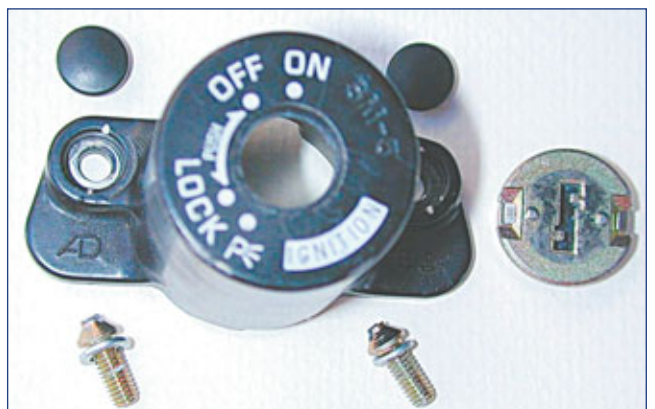


20. Pull the ignition lock down and out of its mount. Pop off the two small, round, black plastic covers with your thumbnail or a small screwdriver.

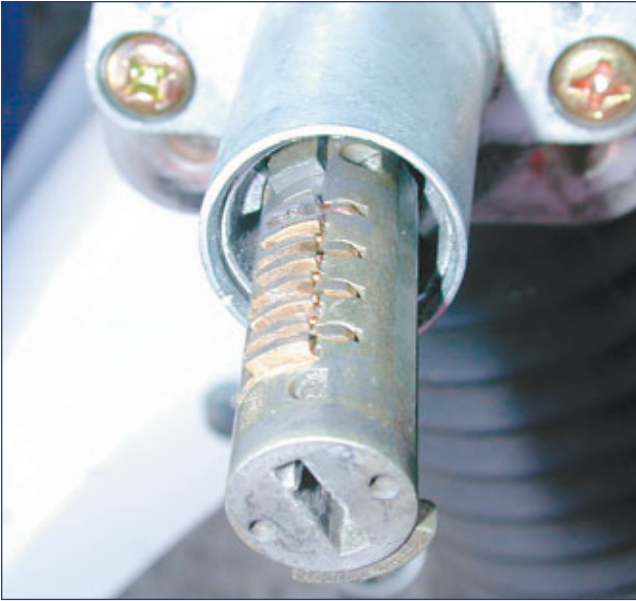
21. You need to remove the two small shearhead bolts that secure the facecap to the lock housing. A Dremel has been used to cut a screwdriver slot in the one on the right.



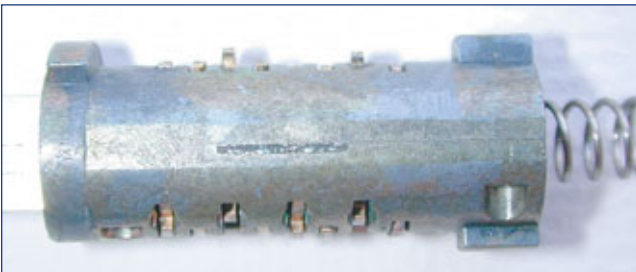
22. A Dremel is shown being used to cut a screwdriver slot in the other shearhead bolt. The slot does not have to be deep because they are easily removed with a small screwdriver.



23. The face-cap has been removed along with the hardened faceplate. The faceplate has been turned over to show the two tits that need to be aligned with the two dimples in the face of the plug.



24. The plug is being pulled out of the ignition lock while in the "OFF" position. The lock needs to be in the "OFF" position so that the lugs on the back of the plug will align with the grooves inside the housing. The two Phillips screws secure the switch to the back of the lock but you do not have to remove them to pull the plug out.



25. The ignition lock plug contains 8 wafer tumblers all on the same side of the keyway. The first seven tumblers are raised by the 7 spaces that are cut on the key. The 8th tumbler is raised by the precut tip on the X241 blank so you do not have to be concerned with it other than using the correct blank. An X241 blank inserted into the keyway shows that the cuts are 2242113, which is code A6632.

Note: An X179 blank will work in the gas cap and helmet locks but it is too short to be fully inserted into the ignition lock; an X241 is required.

Codes: A6001-A7000

Blank: Ilco X241 (SUZ18), Curtis SU18, Silca SZ14RAP

Spacing: 1=.157, 2=.256, 3=.354, 4=.453, 5=.551, 6=.650, 7=.748

Depths: 1=.295, 2=.276, 3=.256, 4=.236

HPC Card Number: CMC71

ITL Number: 523

Curtis: MZ-3 cam & SU-2A carriage

Tumbler Locations: 1 2 3 4 5 6 7

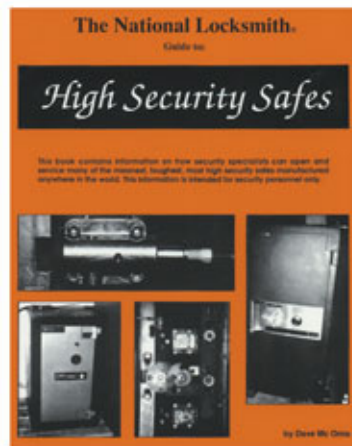
Ignition: x x x x x x x

Gas Cap: x x x x x

Helmet: x x x x x

TNL

High Security Safes Vol. 1 & 2



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BUSINESS BRIEFS

Phoenix Safe International LLC

Introducing Phoenix Safe International LLC, a new company with a team you'll recognize. Although the company is new, we're sure you'll recognize the co-owners, Jeff McQueen, Janet Pape, and Penny Golden.

Phoenix Safe is an international company that can trace its history back to 1799, though not always under the Phoenix name. Located in Liverpool England, the company originally specialized in providing strong boxes to the merchant fleets sailing to the Americas.

Over the years, the Company began manufacturing high quality safes and intricate locks that would protect valuables from theft, competing with companies such as Chubb, Tann, and Yale.

The Company continued to evolve over the years, and in 1984, Phoenix Safe Co. was formed to provide a single-source for locksmiths and safe dealers looking to purchase security products for resale. Phoenix Safe offers both personal and commercial safes that provide fire, and or, burglary protection for paper records, data records and valuables.

For more information contact us at (800) 636-0778. Circle 308 on Rapid Reply.

Charles Christiansen Joins HES, Inc.



HES announced that Charles Christiansen is joining the Phoenix based headquarters as Business

Development Manager for the contract hardware and related markets.

Formerly with ESSEX Industries, an ASSA ABLOY Group company, Charles will play a strategic role in helping HES to strengthen their position in the door and hardware market.

Charles is a Graduate from E.I.T., has an associate's degree in electronics, and has over 16 years of experience in contract door and hardware distribution, including two General Manager positions. During his eight-year tenure with ESSEX, he was instrumental in the development of ESSEX Openings Source website, the ESSEX Doors, Frames, and Hardware Reference Guide, and the ESSEX OTC (Online Training Center).

Intellikey Moves to Princeton, New Jersey

Intellikey Corporation, an innovative full-service security technology firm, has moved its North American headquarters to 302 Carnegie Center, 1st floor; Princeton, NJ 08540. Toll free telephone: 800-226-0703; Telephone: 609-750-0021; Fax: 609-750-0906; Web site: www.intellikey.com.

Monarch Tool Modifies Name

In order to have a name more closely related to the company's current activities, Monarch Tool & Manufacturing Company Incorporated has changed its name to Monarch Coin and Security Incorporated. Founded in 1903, the Covington, Kentucky-based firm manufactures coin mechanisms for Laundromats and related security items, such as coin

boxes, locks and keys and the Key Kop line of locking key rings.

SDC Taking Reservations For 2002 Access Hardware School

The annual SDC School is scheduled for June 19-22, 2002. With emphasis is on education not promotion. The two-day course includes access hardware overview, budget, doors, frames, troubleshooting, life safety codes and factory tour. Focus training groups include: real on-site door assessment and product application; hands-on wiring; hands-on lock installation, hands on access control programming. Open to installers, systems integrators, distributors and specification writers across the nation, all meals are provided and SDC invites attendees to the cocktail party, Western BBQ, golfing and Malibu Beach Bash. Contact SDC for enrollment availability by April 15th. For more details, go to www.sdcsecurity.com or call (800) 413-8783.

DynaLock Corporation

The company has appointed Monfort Electronics Marketing as Sales Representatives for Contract Hardware, Locksmith and Access/Security accounts in Michigan, Indiana, Ohio, Kentucky, West Virginia and Western Pennsylvania. Their main office is in Indianapolis, IN. For more information call (317) 782-8877. Circle 309 on Rapid Reply.

North Carolina Locksmith Association Trade Show

The trade show will be on February 09, 2002. This

year it will be held at the Airport Sheraton Hotel, 3315 S. I-85 and Billy Graham Parkway in Charlotte, NC.

The show room will be open from 9:00 am until 3:30 pm. We will not close for lunch.

For further assistance, call (803) 547-1917. Circle 310 on Rapid Reply.

Securitron's New and Improved Website

Securitron's new website, www.securitron.com, now offers a powerful search capability for their entire product line by name or by part number. It also links to their sister, ASSA ABLOY Group companies, their extensive distributor database and their e-newsletter MagnaZine. In addition, there is a calendar highlighting Securitron trade shows, classes and activities, and information about their philanthropic partner, Habitat for Humanity.

Also available on the site are .pdf files of brochures and installation instructions, product feature matrixes, product approvals and listings, standard wiring diagrams and more! You can download their entire 52 page 2001 Product Catalog and Suggested Retail Pricing in it's entirety, or product by product, or request a copy of the catalog online.

For more information visit: www.securitron.com or marketing@securitron.com. Circle 311 on Rapid Reply.

IRL

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FORUM

Growing Pains

As you may know, *The National Locksmith* maintains an extensive forum free of charge for subscribers to the magazine. The list connects many hundreds of fellow locksmiths together from around the world to trade technical and business advice.

This article was compiled from correspondence on the forums when one locksmith asked his fellow subscribers for advice on how to grow his business. The answers were all provided by, and are the opinions of locksmiths running their own business, just like you.

The question posed was about how to establish and grow a locksmith business. I have heard the question asked many, many times. Locksmiths answered with their own secrets to success, and that makes this article well worth the time it will take you to read it.

Q: This is not easy for me to say, because I am a proud individual, but I started my business three years ago last September. A completely mobile service (no shop). I have no employees, just myself

In the past three years my business has fluctuated in making money. One month I will have a profit of \$2,000.00, and the next month I will have a loss of \$600.00. Yes, the most I have cleared is about \$2,000.00! I have tried yellow pages, mailings, radio, handing out cards, and visiting people and businesses. Nothing seems to work!

There are three other locksmiths in my area with a population of about 60,000 people. One is a "part timer," the other two have been established in the community for over 20 years each. My business is only paying for itself. My work is excellent; the people who have used me, always come back.

I only have two major establishments that use me consistently. One is a nursing home, the other is a

distributing company, but they can only supply me with so much business. I need to find away to get my phone to ring, I can go a whole day without a call!

Is there something I can do? What did you do in the beginning to establish your business? Is three years long enough to get the business thriving? If I get a part time job to support my family I think it will hurt the business, not being able to go when some one needs my services. What do you think? Your help is greatly needed! Thank you.

—Name withheld.

A: I'm in the same boat, I started my business three years ago last April. I own a completely mobile service. I have no employees, just myself. My method is to hand out cards and visit people and businesses. This works the best for me. Just keep at it.

—Moshe V.

A: I hope the information I give helps, this works for us. Never use an

answering machine or service. People want to speak to a live person at the time. Use the yellow pages with a reasonably sized ad. A small one will be overlooked. Be honest with your customers. Never say you will do their service when you can't, and if you will be delayed always contact the customer. Never leave them wondering where you are.

Be clean and courteous. Compare your prices to the competition. If you are over priced they will shop around looking for the better one. You can also get set up to do work for roadside services such as Chevy, Pontiac and so forth.

Do not demand immediate payment from companies. They will want to be put up on an account, and usually pay within 30 days. Owning a business takes time and patience. Hang in there and it will work out.

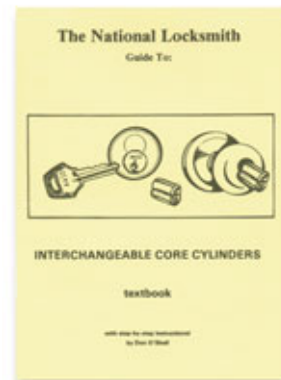
When you get things going, a good time to send statements is around the 15th of each month. Most will pay before the end of the month.

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#ICB - 1

If you have a problem with an overdue account (we give 45 days), contact accounts receivables and state that you feel your invoice was overlooked. If you are hateful and demanding, they will take their time helping you.

—*McTyre Lock & Safe*

A: A real good piece of advice I received way back when I started was, it's not how much money your business brings in that counts, it's how much you get to keep. For instance, you could sell your service/products with just a one percent profit and you could do a few hundred thousand a year in a big city. It sounds impressive to say I did two hundred thousand dollars worth of business. Of course you only cleared about two thousand dollars.

Giving your product away will get you lots of business, but it won't put much in your pocket. I had a friend who had to be bringing in over a couple hundred grand a year, but he went out of business due to his low profit margin. I have never had a locksmith friend who lost their business because they charged too much, but I have had three that went out of business because they didn't charge enough.

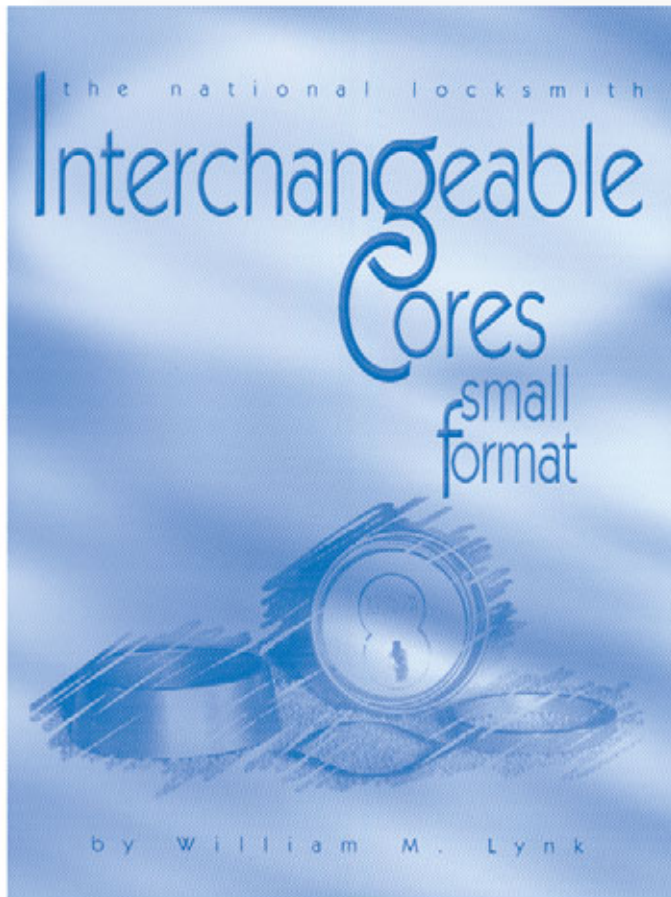
—*B. Turner*

A: I, like you, have been in business for just over three years. However, unlike you I opened a shop as well as a mobile service. We don't have as much competition as you, but for business the secret has been simple. The only thing that you have to do to be successful is be there. If you build it, they will come. Trite, but true.

We try to always answer the phone personally. Sometimes we have to forward to a pager, but, around here, people usually won't hang up on a real person, where they usually do hang up on the machine. They call another locksmith (or worse, a wrecker or their brother-in-law with a "tool") and if they can't get him, they call back and leave a message... maybe.

Our walk-in business was slow at first, but as people got to know us they became regulars, and best of all they referred us to all their friends. Don't get me wrong, it's not easy as you well know. I lived in the back of my shop for three years. We were in the process of buying a house, and for the first year I ate a lot of peanut butter and jelly, but I love my job.

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Still, after 3-1/2 years, we have people come in and say, "We didn't know you were here. We pass here every day."

You mentioned some advertising. We only use the yellow pages, and mostly we use business cards. We spread them everywhere. We sometimes go through 1000 cards in a two-month period. Every Dairy Mart, 7-11, and drug store that we go into, we leave 20 or 30 cards. True, most get thrown away, but they are the best advertising per dollar that we have. Every bar, public telephone, Laundromat, Real-estate office...you

get the picture.

Be diligent. Go back and establish a rapport with these people... talk to them. If you want to be used regularly, or even take some accounts away from your competition, you have to do more than they do. Little extras don't seem like much, but all together are a big deal. If we cut a key for someone that is hard to fit, we sometimes make a free service call to their house to make sure that it fits smoothly. Usually just a few file strokes, but to them it's a big deal and they do remember.

Also, get signed up with the

Emergency Road Services. RNC, CCMC, Allstate Motor club, Good Samaritan, there must be more, but these keep us busy. I assume that you run 24-hour service, because if not, somebody probably is. Our overtime rate is time and a half. (After 6 p.m. I get a raise!)

Oh yeah...car dealers. Used, new, buy-here pay here. They all use keys. They all lose keys, and even if they don't you can leave some business cards. That goes for Realty company's too. How many people buy houses and don't rekey?

I don't have all the answers by any means, but I did double my gross receipts last year and this year looks even more promising. We have been told that it takes five years to really establish a thriving, profitable business. Keep on plugging. If you are good, you'll succeed. There's always room at the top. Sorry about all the clichés, but some of them really help.

—Drew Dailey

A: I am sure all of us who have started our own businesses have had this problem, and we know how you feel. When I first started my business nine years ago, in my free time (not doing any locksmith work), I would go door to door meeting owners and managers. I handed out 23 thousand business cards in one year.

I had a Yellow Page advertisement but my income came from me working hard and staying consistent. I was committed to being a success and was not going to stay by the phone and wait for it to ring. Nine years later and I'm still getting business from the hard work I put in the first year. Hard work does pay off. Naturally I don't have to do that any more but I still give out cards continually. Good luck!

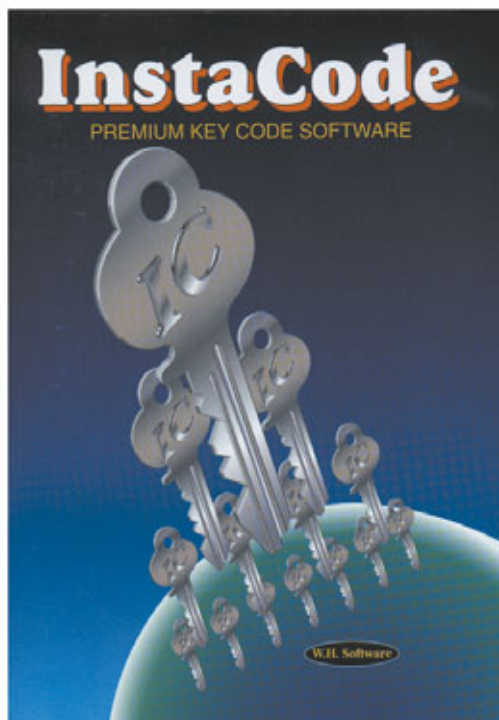
—MLK86@aol.com

A: I guess you haven't tried the Yellow Pages consistently. You have to have an ad of at least 1/8 of a page, and with very detailed information about what you do.

A: I do not run your business, but I can give you some very important pieces of information on what it takes to be a successful locksmith:

1. You must be a wolf. Be ready night and day to answer your calls.
2. Be eager to learn a lot and have a lot of time to read.
3. Keep yourself very honest at all times, night and day, 7 days a week.

InstaCode



The latest release of InstaCode, includes over 5000 code series covering general/utility, padlock, vehicle and motorcycles.

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#IC - 2003

4. No bad attitude while you are working or talking to anybody.

5. Answer your calls no matter where you are or what you are doing. Always answer your calls at all times of the day.

— Salvador Salomon

A: Here's where to find accounts.

1. Find out where the credit outfits send their REPO'S to, usually an auto auction. Get the auction, finance company, and (from that) several used and new auto dealers as accounts.

2. AAA, RNC and Cross Country are assets. Get aligned with every roadside service you can.

When the competitor isn't servicing that account after bed time, jump on it.

Come up with a fair fee for automotive service. That's when you'll thank god you have AUTOSMART, all the codes, or belong to NLAA.

Offer same day service when the customer calls. You have to hear the 'Voice of the Customer.' To do this you will need: answering service, pager and cell phone at \$300 - \$400/mo.

Setup an alliance with competitors as a lockout specialist. Answer all calls and refer when necessary.

Give an unconditional guarantee of 'quality workmanship.' That's as perceived by the customer. Once the customer has paid, go back till he's happy for that same dollar. Great guarantee! Do the job right and promote that guarantee.

I have no use for the "locksmith" who won't get out of bed and help a soul in distress, or won't answer his phone after hours. This Comes with the territory, doesn't it? Or do people only need lock help between 9 and 5?

—Jim Broadhurst

A: I opened a lock shop over ten years ago in an area with a population of 25,000. I went to coffee shops and to all the stores to introduce myself and my company. I even got a McGruff costume from the police in a larger city, and went to all the schools in my area and had McGruff the crime fighting dog talk to all the kids. It was great.

There are all types of angles to get people to use you. Maybe get with a Real Estate company and give a 15% break on rekeying a house when they sell it. We didn't start getting lots of

regular calls till five years in business. Most of the home owners will use us three times in a six-year cycle. Also, try your food chain stores. They will use you if you give fast service, and, by the way, don't cut your price for them.

—Ron Scott

A: To the locksmith in business for three years - Never, never, never, give up. You will make a living at this if you give good service, have good training and charge a price that will allow you to survive. Each town is different, but people everywhere appreciate good service, and if

business is a little slow use that time to get out and meet potential customers.

I once made three thousand dollars of business from a person I met in line at our local video rental store. Don't be afraid to toot your own horn if you have the training. Don't try to fake it though. Get out and let the town know what you can do for them and they will respond.

I know it is sometimes difficult to ask for business. I remember when I was starting out, I went into a store to give a card to the manager. As I tried to hand it to him he moved away and

How To Jumpstart Your Business



Anyone who's ever read anything that Jake Jakubowski has written is familiar with his style.

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#JUMPSTART

said, rather rudely, "I already have a locksmith."

There were two other people behind the counter with him and I felt really embarrassed as I turned and started out the door.

About half way out, something inside me made me turn and go back to the counter. I looked that rude manager right in the eye and said, "What happens if your usual locksmith is unavailable? It could happen you know!" I laid my card on the counter and left.

Three weeks later that manager

got fired and one of those guys standing with him became the manager, and called me. He said that my leaving that card made him remember me.

That card by the way has paid my rent many times in the past ten years. What I'm trying to say is that if being a locksmith is in your heart, you will survive, but it does require persistent action on your part. It may not be easy, but it will be fun. Hang in there and it won't be long before you will be wishing for a vacation or for a break from all the work you will have.

—George H.

A: I have used these marketing methods with a good deal of success. Try to focus on the areas of your expertise and on business that has a high degree of turnover for lock maintenance possibilities.

Next, I would focus on Associations. Becoming affiliated with residential or commercial property management and Real Estate Associations are excellent ways to network. Join the Chamber of Commerce and attend their mixers. Service and quality of workmanship are all you have to sell. If you truly want to survive in this trade, just keep your nose to the grindstone and represent yourself as a Professional Security and Locksmith Service Company.

I started in 1990 as a mobile locksmith doing about \$100,000.00 annually. Today we have four full time trucks, seven employees and do about \$600,000.00. So it can be done. We attribute our success to the good will of the Lord and a lot of hard work. Good Luck!

—SV Lock

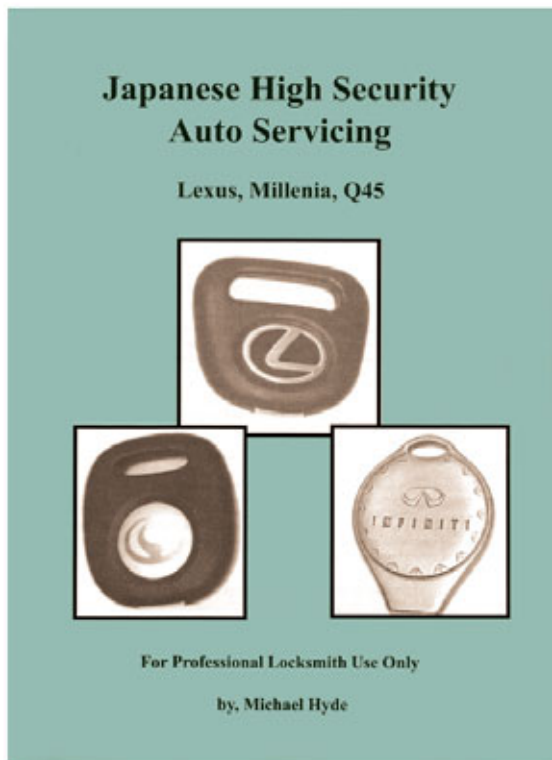
A: I am in the same boat. I am mobile, no shop and no ability to have one. Rent in my area would run \$1,000 a month plus expenses. I visited the car dealers around both new and used. I found an interesting thing at the new dealers. Say they have a car locked up on the lot. If they call a tow truck driver to open it, the tow truck driver will charge \$50 or more.

If there are no keys in the car, assuming it's a type the dealer sells, they have to tow the car into the shop. Then a mechanic has to pull the ignition at his high rate of labor. He pulls the door lock to make the door key, assuming they have someone there that can make keys. This costs them at least 45 minutes. Their total cost might be \$150 on a used car.

What if they are a GM dealer and have a Ford? They can't touch it. Now you see where I get my business. I have three new car dealers and four used dealers I work for. They pay once a month, without fail. Money in the bank as they say. And besides, I get parts I need at a discount because I help them out.

I happen to sell my local GM dealer VATS key blanks at a 50% markup over my cost uncut, and this is cheaper than they can buy them

Japanese High Security



Some of the most profitable cars are also the trickiest to work on.

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#JAP - 1

through their sources. I know I ought to charge more, but there are fringe benefits, such as access to the GM codes on all their cars without hassling with Roadside. It's worth a trade off.

Get your name out to the private schools, apartment houses and of all Realtors. I have a Realtor that in the last week has lost the keys to one house and broke off the key in another.

—John's Locksmithing

A: I built my business by:

1. Knocking on doors and finding out who is the building engineer in charge of security, and trying to see them in person. If not, put them on your mail list and keep your name in front of them every three months or so.

2. Word of mouth is the best advertising.

3. The variety of work you can do is very important. You say you have two good accounts. Try selling them more products and services. If you don't do access control, learn. If you don't do safes, learn. It is much easier to sell more to an existing happy customer than find new ones who are unhappy with their present locksmith.

4. Hang in there, it takes a long time to become established.

—Lenny Wollitz

A: For almost the whole first year we didn't even have a yellow pages ad. When the ad came out, business really took off. We did get lucky with really good positioning for our ads, which can make or break the return on your advertising buck. Business picked up so much with the yellow pages ads that after a year I sold my boat because I never had time to take it out.

Not that I was that busy, but if I took the boat out in the evening and the beeper went off, I might as well have thrown \$60 overboard. When people want a locksmith, especially after regular hours, they want them now.

Another thing that seems to get me business is my van. People who I just met are constantly telling me, "Man, I see your trucks all over the place." I have one van. Letter it professionally. I'm not saying you have to have a professional do it, but if your lettering looks bad, you're better off not having any at all. I did mine myself with custom adhesive

letters for about \$250 and it turned out great.

Do you have a local Chamber of Commerce? If so, join it! It's a great place to "network" with potential commercial accounts. Just get your name out there!

I'm in a large city. I started my business with five years experience. My first year in business, if it hadn't been for my wife's parents, we'd have been living in a refrigerator box. The second year we did better, but still needed a little help. The third year we made enough to live on, but things were still tight. The fourth year

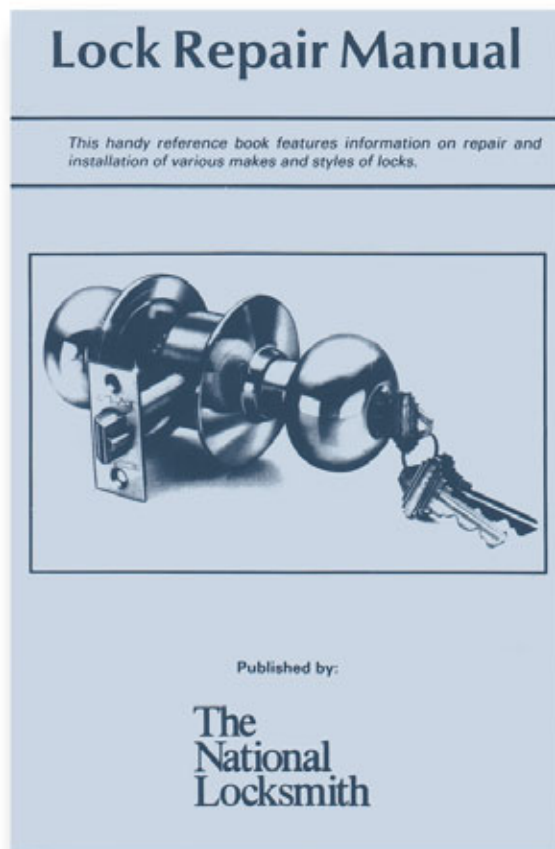
we made enough that we actually had to pay personal income taxes for the first time since we started the business.

Coincidentally, that fourth year, I was a member of a local locksmith association for the first time. Just something to think about.

—Bob De Weese

TNL

Lock Repair Manual



Here, under one cover you have a tremendous amount of lock servicing information. Next time you run into a problem chances are you'll find the answer in the Lock Repair Manual.

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#LRM - 1

THRU THE KEYHOLE

A Peek at Movers & Shakers in the Industry

ATTENTION MANUFACTURERS AND DISTRIBUTORS:

Would you like your company and products to be profiled in *Thru The Keyhole*? Please call Editor, Greg Mango, at (630) 837-2044.

ASSA, Inc. Gets a Lock On The World

It's the dream of every small manufacturing company; to develop a product so useful and integral, that they become the leading manufacturer and distributor in the world. When ASSA, Inc. opened in Naperville, IL as a marketing arm of ASSA AB in Eskilstuna, Sweden, it took its first step toward just that.

Incorporated in 1984, ASSA, Inc. was a full time manufacturer of mortise locks, padlocks, auxiliary locks, and high security key systems. Under the direction of Wayne Wilkerson, who became president and CEO in 1989, ASSA, Inc. was transformed into the largest high security cylinder manufacturer in


the United States. Starting in 1992, ASSA, Inc. shifted their sales direction from independent dealer sales to institutional, industrial and government sales. With the introduction of their new master keying capabilities they become the logical choice for institutions around the country. In 1996 alone, sales rose from under \$500,000 to over 8 million.

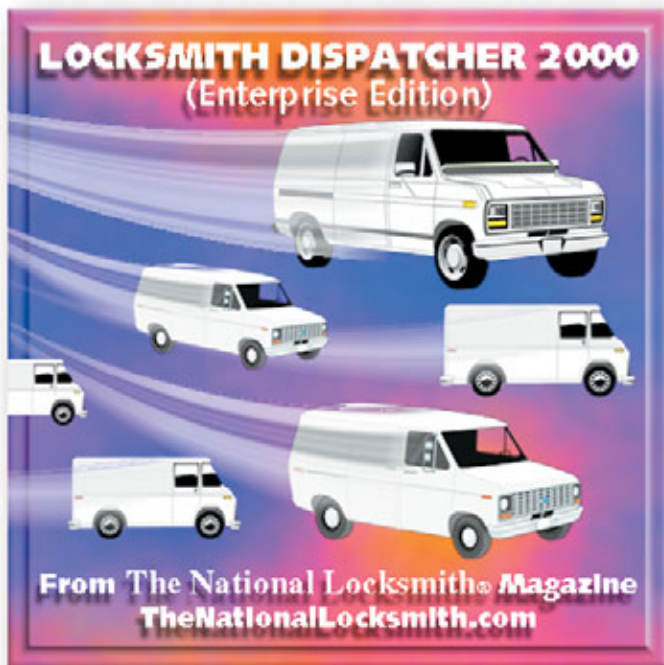
Some of the customers who made this possible are the World Trade Center, The World Bank, The Supreme Court, Boeing, AT&T, Baltimore Ravens Stadium, The University of New Hampshire, Prince George's County School District, Alexandria City Public Schools, Tucson Unified Schools, and numerous schools and federal

government facilities.

ASSA, Inc. certainly isn't just a small marketing arm anymore. Today, over 60% of its products sold in the US and Canada are manufactured in the United States. At any one time ASSA, Inc. has over 150 distribution points across the US and Canada to service their dealer and end-user base with a combined inventory that exceeds 3 million.

On January 3, 2000, ASSA, Inc. opened a new facility in New Haven, CT. Occupying 50,000 square feet of manufacturing and administration space, it's a step that gives ASSA, Inc. the key to even more growth.

For more information call: (800) 235-7482 or visit them on the web at: www.assalock.com. 



Locksmith Dispatcher 2000

Controlled Service
dispatching software
specifically for
the locksmith!

CLICK HERE TO LEARN MORE 

FREE Code Cards!

from The National Locksmith®

COLLECT 'EM ALL!!

Spaces		Depths		Cutter: CW-1011		IC #: 903	
mm	Inch	mm	Inch	Jaw: A	Series	Original	
1	2150	846	2	855	50000-69999		
2	2010	791	1	820			
3	1800	709	3	690			
4	1660	654	4	625			
5	1450	571					
6	1310	516					
7	1100	433					
8	960	378					
9	750	295					
10	610	240					

Key/Blank Mfr. Silca
Blank # TOY43AT4

Align: Black horse shoe tip stop

The National Locksmith®

Toyota 50001-69999

Toyota 50001-69999

InstaCode

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Cut Along Outside of Card and Laminate To Use

Spaces		Depths		Punch		IC #: P903	
mm	Inch	mm	Inch	Jaw: A	Series	Original	
1	2150	846	2	855	50000-69999		
2	2010	791	1	820			
3	1800	709	3	690			
4	1660	654	4	625			
5	1450	571					
6	1310	516					
7	1100	433					
8	960	378					
9	750	295					
10	610	240					

Key/Blank Mfr. Silca
Blank # TOY43AT4

Insert key such that face of jaw meets key profile

Align: Tip stop (Left Insertion)

The National Locksmith®

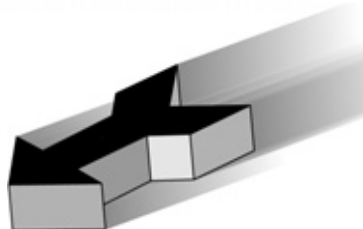
Toyota 50001-69999

Toyota 50001-69999

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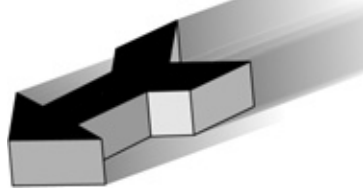
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BONUS Code Card
For the 1200CMB™

Flip 'em over for Silca, Curtis, Framon, A-1 and ITL specs!



Code Card
For the 1200PCH™

Courtesy of INSTA-CODE 2002™ from The National Locksmith

Toyota 50001-69999

HPC 1200CMB™

HPC: N/A Cutter: CW-1011
 Vice: A

Silca Unocode

UnoCode Card No.: 1420
 Vice/Adapter V100 Standard

HPC Codemax™

DSD: N/A
 Jaw: A
 Cutter: 1011

Curtis

Cam Set: N/A
 Carriage: N/A
 Clipper: N/A

Framon

Cuts Start At: 404 Cutter: N/A
 Spacing: .0551 / .0826 Alternating
 Block #: N/A Depth Increment: .0255
 Key Clamping: Key aligned using left side of vice

A-1 Pak-A-Punch™

Quick Change Kit: N/A
 Punch And Die: N/A

ITL

ITL Manufacturer ID: N/A

Toyota 50001-69999

HPC 1200PCH™

HPC: N/A Punch: N/A
 Jaw: N/A

Silca Unocode

UnoCode Card No.: 1420
 Vice/Adapter V100 Standard

HPC Codemax™

DSD: N/A
 Jaw: A
 Cutter: 1011

Curtis

Cam Set: N/A
 Carriage: N/A
 Clipper: N/A

Framon

Cuts Start At: 404 Cutter: N/A
 Spacing: .0551 / .0826 Alternating
 Block #: N/A Depth Increment: .0255
 Key Clamping: Key aligned using left side of vice

A-1 Pak-A-Punch™

Quick Change Kit: N/A
 Punch And Die: N/A

ITL

ITL Manufacturer ID: N/A

KEY CODES

Toyota, Part 1 50001-69999

Manufacturer: Toyota
Code Series: 50001 - 69999

Key Blanks:

Silca: TOY43AT4

Number of Cuts: 10

M.A.C.S.: 2

Key Gauged: Tip

Cut to Cut Spacings:

.0551/.0826 Alternating

Cut Depth Increments: .0255

Spacings (Framon):

1 - .404

2 - .459

3 - .541

4 - .596

5 - .679

6 - .734

7 - .816

8 - .871

9 - .954

10 - 1.009

Depths:

1 = .325

2 = .299

3 = .274

4 = .248

HPC 1200CMB

Code Card: N/A

Jaw: A

Cutter: CW-1011

Gauge From: Tip

HPC 1200PCH (Punch):

PCH Card: N/A

Punch: N/A

Jaw: A

Silca UnoCode

Card Number: 1420

HPC CodeMax

DSD #: N/A

Jaw: A

Cutter: CW-1011

Curtis No. 15 Code Cutter

Cam-Set: N/A

Carriage: N/A

Framon #2

Cuts Start at: .404

Cut to Cut Spacing:

.0551/.0826 Alternating

Block #: N/A

Depth Increments: .0255

Cutter: N/A

Key Clamping Info: Key aligned using left side of vise/spacing clip.

A-1 Pack-A-Punch

Quick Change Kit: N/A

Punch: N/A

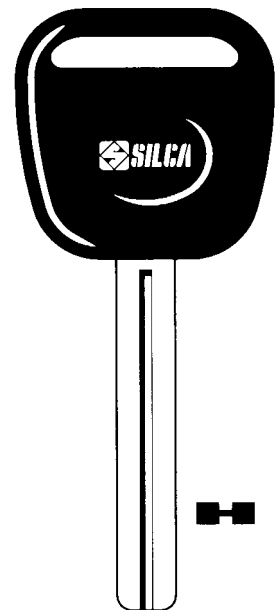
Die: N/A

ITL 9000 & 950

Manufacturer ID: N/A

ECM 200

N/A



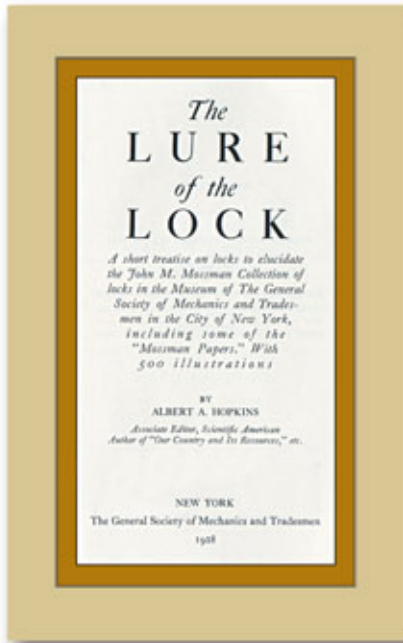
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Toyota, Part 1

50001-69999

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The Lure of the Lock



This hardcover book, compiled in 1928,
 features dozens and dozens of
 beautiful photographs on
 ancient through
 modern locks.

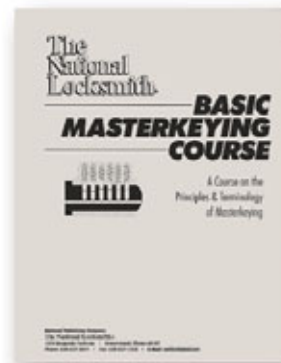
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#LURE

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Basic Masterkeying Course



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#MK - 1

Toyota, Part 1

50001-69999

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Dave McOmie NSO & Article Collection on CD



This CD contains every NSO newsletter and McOmie File Dave has ever published.

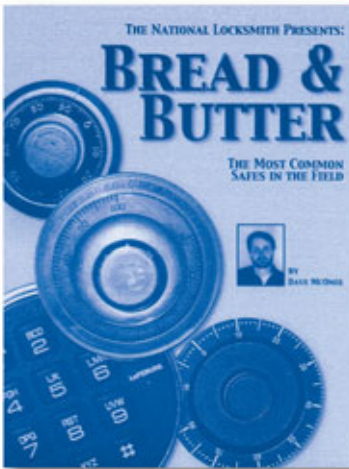
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#DMCD - 2

Toyota, Part 1 50001-69999

Dave McOmie on Safe Locks



Almost 300 pages of information, photographs and illustrations give you every scrap of information about a huge variety of safe locks.

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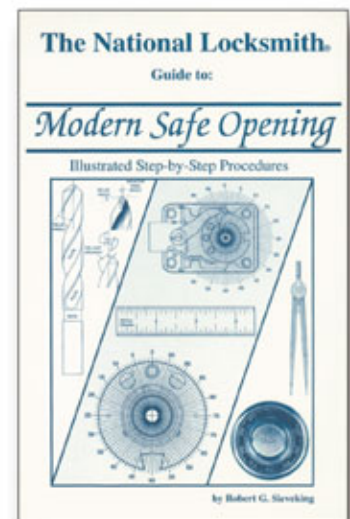
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Modern Safe Opening



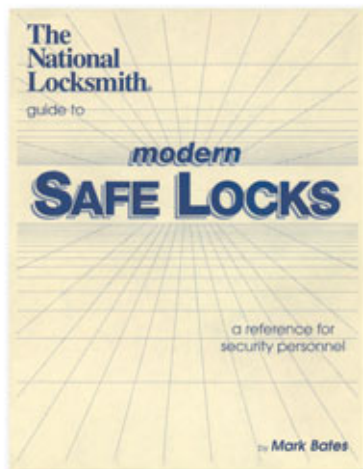
This book is a step-by-step How-To course in safe penetration. Opening safes is one of the most profitable aspects of the locksmithing business.

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Modern Safe Locks



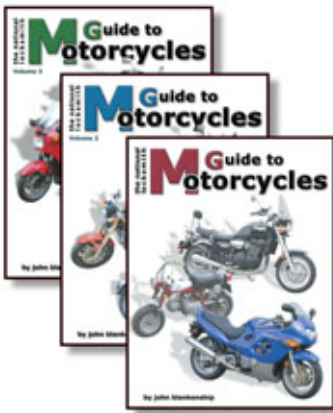
You always wanted to make money servicing safes?

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#MSL - 1

Guide to Motorcycles Volumes 1, 2 & 3



For years locksmiths have begged for a comprehensive service manual on motorcycles and its finally here!

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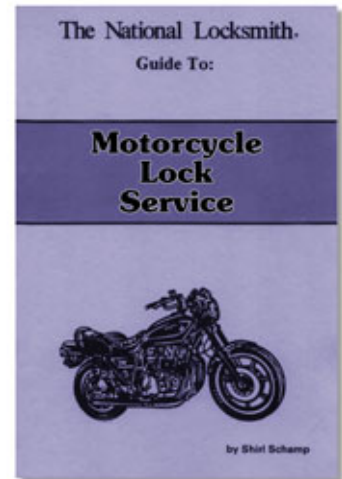
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51279	4321113422	51338	4312432243	51397	2312322243	51456	3212123443
51280	3421113344	51339	3212432234	51398	1112322234	51457	2212123434
51281	3321113244	51340	2112432232	51399	3312322133	51458	1212123432
51282	3221113243	51341	4312432134	51400	2312322132	51459	4312123422
51283	2321113232	51342	3212432133	51401	1212321243	51460	2312123421
51284	2221112344	51343	2212432132	51402	4312234423	51461	2112123344
51285	2121112334	51344	1212432123	51403	3212234343	51462	1112123343
51286	1221112244	51345	3312432121	51404	2212234312	51463	3312123332
51287	1121112243	51346	2312432112	51405	1212233444	51464	2312123321
51288	4312444343	51347	2112431244	51406	4312233423	51465	2112123312
51289	3212444312	51348	1112431243	51407	3212233422	51466	1112123244
51290	2212443434	51349	3312431232	51408	2112233421	51467	3312123234
51291	1212443423	51350	2312431221	51409	1112233344	51468	2312123233
51292	4312443421	51351	2112431134	51410	3312233244	51469	1212123232
51293	3212443312	51352	1112431132	51411	2312233243	51470	3312122344
51294	2212443244	51353	3312344343	51412	1212233232	51471	2312122343
51295	1212443243	51354	2312344312	51413	3312232311	51472	2112122334
51296	4312442312	51355	2112343434	51414	2312232243	51473	4312122244
51297	3212442311	51356	1112343423	51415	1212232134	51474	2312122243
51298	2212442243	51357	3312343421	51416	4312232132	51475	1112122234
51299	1212442134	51358	2312343312	51417	2312231243	51476	3312122133
51300	4312442132	51359	2112343244	51418	2112231132	51477	2312121244
51301	3212442121	51360	1112343243	51419	4312224343	51478	2112121243
51302	2212434443	51361	3312342312	51420	3212224312	51479	1112121234
51303	1212434434	51362	2312342311	51421	2112223444	51480	3312113434
51304	4312434423	51363	2112342243	51422	1112223434	51481	2312113423
51305	3212434422	51364	1112342134	51423	1112223422	51482	2112113422
51306	2212434421	51365	3312342132	51424	3212223344	51483	1112113344
51307	1212434344	51366	2312342121	51425	2112223312	51484	3312113243
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51311	1112434323	51370	2112333434	51429	2112213434	51488	3312112243
51312	3312434321	51371	4312333422	51430	1112213423	51489	2312112234
51313	2312434312	51372	3212333421	51431	3212213421	51490	2112111244
51314	2112434311	51373	2212333244	51432	2212213344	51491	3311344343
51315	1112433444	51374	1112333243	51433	1212213312	51492	2211344312
51316	3312433434	51375	3212332312	51434	4312213243	51493	4311343423
51317	2312433432	51376	2212332311	51435	3212213232	51494	2311343422
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51322	1212433321	51381	1112331243	51440	4312212133	51499	2211342311
51323	4312433311	51382	3312324423	51441	3212211244	51500	4311342134
51324	3212433244	51383	2312324343	51442	2212211243		
51325	2212433243	51384	2112324312	51443	1212211234		
51326	1212433234	51385	1112323444	51444	4312124434		
51327	3312433232	51386	3312323423	51445	3212124432		
51328	2312433223	51387	2312323422	51446	2212124423		
51329	1212433222	51388	1212323421	51447	1112124422		
51330	4312433212	51389	4312323312	51448	3312124344		

TRL

Motorcycle Lock Service



This book contains full details on everything the locksmith needs to know about motorcycle locks.

CLICK HERE TO LEARN MORE



#MLS-1

A Note from

THE CIRCULATION MANAGER

I don't want you to be left out... but sometimes we do run out of back issues. Please be sure to send in your **Renewal Payment** on time and your **Change of Address** at least 4 weeks in advance. Then you won't be the one receiving a note saying, "Sorry, we ran out."

Send your name, old address and new address to:

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1533 Burgundy Pkwy. Streamwood, IL 60107.

TheNationalLocksmith.com

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WEB REVIEW

Select Product Ltd.

<http://www.select-hinges.com/>

Select Products Limited is a manufacturer of aluminum continuous gear door hinges. The Select continuous gear hinge is a heavy-duty hinge system designed for use with wood, aluminum, hollow metal doors and frames for both exterior and interior entrances.

Thousands of Select hinges have been specified for schools, hospitals, storefronts, offices, and many other types of commercial and industrial building applications. Select continuous gear hinges can be used for both new construction and retrofit.

On the web site you'll get a great overview of the product line, including the hinge specifications and applications. This makes choosing the right product

easy. Sagging doors often produce locksmith calls and these products offer a highly profitable solution.



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National Auto Lock Service, Inc.



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Call Jeff Adair (ext. 15) or Debbie Schertzing (ext. 16) for details. (630) 837-2044





TEST DRIVE!

DESCRIPTION:

The L2034 Lynch-It, manufactured by Lockmasters Inc., is an adjustable drill guide for use on import push-button retained automotive locks. Designed for removing ignition locks on Toyota and Lexus, the Lynch-It works equally as well on selected models of Mitsubishi, Geo, Isuzu, Hyundai, Daihatsu, and Subaru. The L2034 can also be used for removing Medeco, Mul-T-Lock and Miwa mortise and rim cylinders.

In the field, the Lynch-It is used to locate the appropriate drill point and guide the drill for removing the retainer, allowing for the lock's removal.

COMPONENTS:

The L2034 Lynch-It is comprised of three center posts, an inner gauge wheel, an outer index wheel, two safe-rated carbide tipped drill bits, a selection of "Key Stubs" and the instruction/application guide. All of the parts are packaged in a foamed plastic carrying case.

OPERATION:

To use, locate the vehicle being serviced in the kit's application guide. The guide is simple to follow, allowing the locksmith to find the application by Year/Make/Model. Once the proper application is located, the guide provides the correct center post, tool orientation and drill point for the lock being removed. It also provides information on the Auto Security Products replacement cylinder and the drill depth needed to remove the locks retainer.

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The L2034 Lynch-It



by
**Lockmasters
Inc**

With the lock specifications in hand, the Lynch-It drill guide is assembled. Both the gauge and index wheels are positioned onto the center post, and the correct key stub is fastened into the end of the tool. The key stub is nothing more than a key blank with the head or bow removed. If a key stub for the given lock is not available in the kit, simply break the head off of a key blank normally used for the vehicle.

Next, noting the drill point indicated by the application guide, the index mark of the index wheel is rotated to the drill point position of the gauge wheel, and locked into position by tightening the center post nut. The tool is then placed on the lock per the "UP" or "DOWN" orientation noted in the application guide.

Once in place, the lock can be drilled. It is recommended that a high-speed drill be used for starting and drilling up to the point of making contact with the lock's retainer. In most instances, the material for drilling up to the retainer is soft; making the high speed bit a better choice. Once contact with the retainer is made, the hardened bit is used, saving the high-speed bit from being damaged by the hardened retainer. If desired, the high-speed

bit can be used to remove the retainer, but expect to replace the bit.

PRICE: \$165.00

CONCLUSION:

The L2034 Lynch-It drill guide is currently the only adjustable, multipurpose drill guide available to the locksmith. In fact, it is the only drill guide available for import automotive locks. It is accurate and easy to use. And allows the locksmith to remove and replace a lock in as little as five minutes.

As a noted benefit, the tool avoids damaging the lock's plug and tumblers by drilling for the lock's retainer. As such, the lock being removed can be disassembled, for removing the tumblers and retrieving the correct keying for the replacement lock.

This tool is ideal for removing locks that are damaged or cannot be picked for removal, as well as for locating the correct position of the lock's retainer. It is a good addition to the toolbox of both experienced and beginning locksmiths alike.

*For more information contact:
Lockmasters Inc., 5085 Danville Rd.,
Nicholasville, KY, 40356.
Phone: 800.654.0637, 859.885.6041,
Fax: 859.885-7093,
Web: www.lockmasters.com
Circle 286 on Rapid Reply.*



IN SUMMARY:

DESCRIPTION: An adjustable drill guide for use on import push-button retained automotive locks.

PRICE: \$165.00

COMMENTS: The only automotive adjustable, multipurpose drill guide available.

TEST DRIVE RESULTS: It is accurate and easy to use.